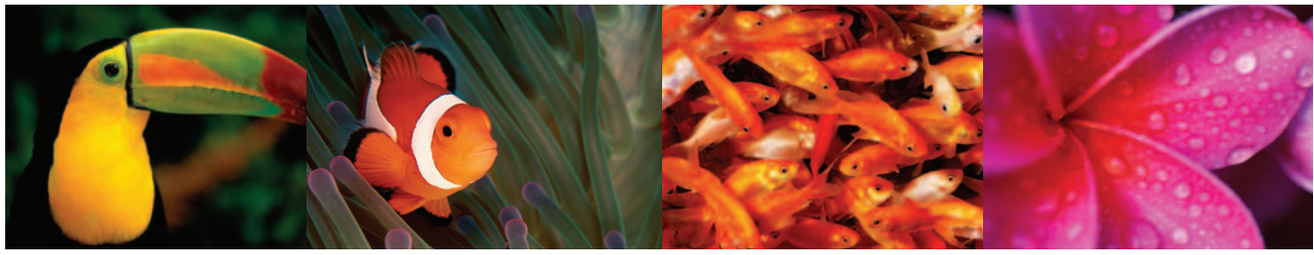
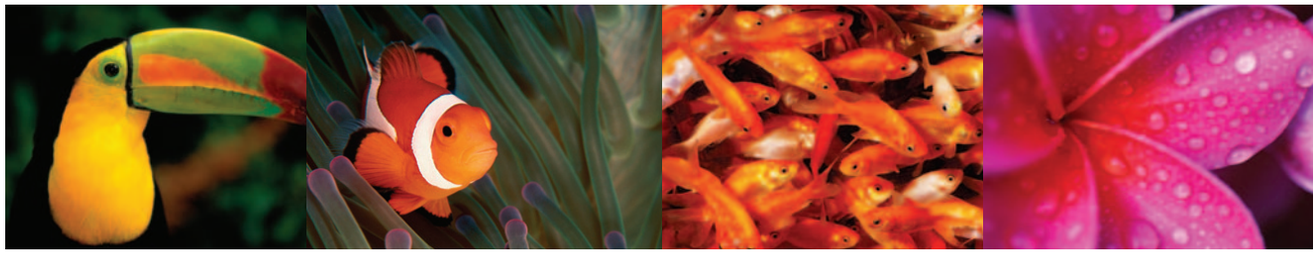
SAMSUNG



Color Laser Printer User's Guide

CLP-350 Series

SAMSUNG



Color Laser Printer User's Guide

CLP-350 Series

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CONTACT SAMSUNG WORLDWIDE

If you have any comments or questions regarding Samsung products, contact the Samsung customer care center.

Country	Customer Care Center	Web Site
ARGENTINE	0800-333-3733	www.samsung.com/ar
AUSTRALIA	1300 362 603	www.samsung.com/au
AUSTRIA	0800-SAMSUNG (726-7864)	www.samsung.com/at
BELGIUM	0032 (0)2 201 24 18	www.samsung.com/be
BRAZIL	0800-124-421 4004-0000	www.samsung.com/br
CANADA	1-800-SAMSUNG (7267864)	www.samsung.com/ca
CHILE	800-726-7864 (SAMSUNG)	www.samsung.com/cl
CHINA	800-810-5858 010- 6475 1880	www.samsung.com.cn
COLOMBIA	01-8000-112-112	www.samsung.com/co
COSTA RICA	0-800-507-7267	www.samsung.com/latin
CZECH REPUBLIC	844 000 844	www.samsung.com/cz
	Distributor pro Českou republiku : Samsung Zrt., česka organizační složka Vyskočilova 4, 14000 Praha 4	
DENMARK	70 70 19 70	www.samsung.com/dk
ECUADOR	1-800-10-7267	www.samsung.com/latin
EL SALVADOR	800-6225	www.samsung.com/latin
ESTONIA	800-7267	www.samsung.ee
KAZAHSTAN	8-10-800-500-55-500	www.samsung.kz
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FINLAND	030-6227 515	www.samsung.com/fi
FRANCE	3260 SAMSUNG or 08 25 08 65 65 (€ 0,15/min)	www.samsung.com/fr
GERMANY	01805 - 121213 (€ 0,14/min)	www.samsung.de
GUATEMALA	1-800-299-0013	www.samsung.com/latin
HONG KONG	3698 4698	www.samsung.com/hk
HUNGARY	06-80-SAMSUNG (7267864)	www.samsung.com/hu
INDIA	3030 8282 1800 110011	www.samsung.com/in/
INDONESIA	0800-112-8888	www.samsung.com/id
ITALIA	800-SAMSUNG(7267864) 800-048989	www.samsung.com/it
JAMAICA	1-800-234-7267	www.samsung.com/latin
JAPAN	0120-327-527	www.samsung.com/jp
LATVIA	800-7267	www.samsung.com/lv/index.htm
LITHUANIA	8-800-77777	www.samsung.com/lt
LUXEMBURG	0035 (0)2 261 03 710	www.samsung.com/be
MALAYSIA	1800-88-9999	www.samsung.com/my
MEXICO	01-800-SAMSUNG (7267864)	www.samsung.com/mx
NETHERLANDS	0900 20 200 88 (€ 0,10/min)	www.samsung.com/nl
NEW ZEALAND	0800SAMSUNG(726-7864)	www.samsung.com/nz
NORWAY	815-56 480	www.samsung.com/no
PANAMA	800-7267	www.samsung.com/latin
PHILIPPINES	1800-10-SAMSUNG (7267864)	www.samsung.com/ph
POLAND	0 801 801 881 022-607-93-33	www.samsung.com/pl
PORTUGAL	80 8 200 128	www.samsung.com/pt
PUERTO RICO	1-800-682-3180	www.samsung.com/latin
REP. DOMINICA	1-800-751-2676	www.samsung.com/latin
REPUBLIC OF IRELAND	0818 717 100	www.samsung.com/uk
RUSSIA	8-800-555-55-55	www.samsung.ru
SINGAPORE	1800-SAMSUNG (7267864)	www.samsung.com/sg
SLOVAKIA	0800-SAMSUNG (726786)	www.samsung.com/sk
SOUTH AFRICA	0860 726 7864 (SAMSUNG)	www.samsung.com/za
SPAIN	902 10 11 30	www.samsung.com/es
SWEDEN	0771-400 200	www.samsung.com/se
SWITZERLAND	0800-7267864	www.samsung.com/ch/
TAIWAN	0800-329-999	www.samsung.com/tw
THAILAND	1800-29-3232 02-689-3232	www.samsung.com/th
TRINIDAD & TOBAGO	1-800-7267-864	www.samsung.com/latin
TURKEY	444 77 11	www.samsung.com.tr
U.A.E	800-SAMSUNG (7267864)	www.samsung.com/mea
U.K	0870 SAMSUNG (7267864)	www.samsung.com/uk
U.S.A.	1-800-SAMSUNG (7267864)	www.samsung.com
UKRAINE	8-800-502-0000	www.samsung.ua
UZBEKISTAN	8-800-120-0400	www.samsung.com.uz
VENEZUELA	0-800-100-5303	www.samsung.com/latin
VIETNAM	1 800 588 889	www.samsung.com/vn

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About this user's guide

This user's guide provides information about basic understanding of the machine as well as detailed explanation on each step during the actual usage. Both novice users and professional users can refer to this guide for installing and using the machine.

This explanation is mainly based on the Microsoft Windows operating system.

Some terms in this guide are used interchangeably, as below.

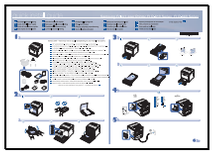
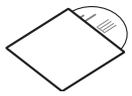
- Document is synonymous with original.
- Paper is synonymous with media, or print media.
- The model name such as CLP-3xx Series is synonymous with the machine.

The following table offers the conventions of this guide.

Convention	Description	Example
Bold	Used for texts on the display or actual prints on the machine.	**Start**
Note	Used to provide additional information or detailed specification of the machine function and feature.	**Note** The date format may differ from country to country.
Caution	Used to give users information to protect the machine from possible mechanical damage or malfunction.	**Caution** Do not touch the green underside of the toner cartridge.
Footnote	Used to provide more detailed information on certain words or a phrase.	a. pages per minute
(See page 1.1 for more information)	Used to guide users to the reference page for the additional detailed information.	(See page 1.1 for more information)

Finding more information

You can find information for setting up and using your machine from the following resources, either as a print-out or onscreen.

Quick Install Guide 	Provides information on setting up your machine and this requires that you follow the instructions in the guide to prepare the machine.
Online User's Guide 	Provides you with step-by-step instructions for using your machine's full features, and contains information for maintaining your machine, troubleshooting, and installing accessories. This user's guide also contains Software section to provide you with information on how to print documents with your machine in various operating systems, and how to use the included software utilities. **Note** You can access the user's guide in other languages from the Manual folder on the printer software CD.
Printer Driver Help 	Provides you with help information on printer driver properties and instructions for setting up the properties for printing. To access a printer driver help screen, click **Help** from the printer properties dialog box.
Samsung website	If you have Internet access, you can get help, support, printer drivers, manals, and order information from the Samsung website, www.samsungprinter.com.

Safety and Regulatory Information

Important Precautions and Safety Information

When using this machine, these basic safety precautions should always be followed to reduce risk of fire, electric shock, and injury to people:

1 Read and understand all instructions.

2 Use common sense whenever operating electrical appliances.

3 Follow all warnings and instructions marked on the machine and in the literature accompanying the machine.

4 If an operating instruction appears to conflict with safety information, heed the safety information. You may have misunderstood the operating instruction. If you cannot resolve the conflict, contact your sales or service representative for assistance.

5 Unplug the machine from the AC wall socket before cleaning. Do not use liquid or aerosol cleaners. Use only a damp cloth for cleaning.

6 Do not place the machine on an unstable cart, stand or table. It may fall, causing serious damage.

7 Your machine should never be placed on, near or over a radiator, heater, air conditioner or ventilation duct.

8 Do not allow anything to rest on the power cable. Do not locate your machine where the cords will be abused by persons walking on them.

9 Do not overload wall outlets and extension cords. This can diminish performance, and may result in the risk of fire or electric shock.

10 Do not allow pets to chew on the AC power or PC interface cords.

11 Never push objects of any kind into the machine through case or cabinet openings. They may touch dangerous voltage points, creating a risk of fire or shock. Never spill liquid of any kind onto or into the machine.

12 To reduce the risk of electric shock, do not disassemble the machine. Take it to a qualified service technician when repair work is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly could cause electric shock when the unit is subsequently used.

13 Unplug the machine from the PC and AC wall outlet, and refer servicing to qualified service personnel under the following conditions:
- When any part of the power cord, plug, or connecting cable is damaged or frayed.
- If liquid has been spilled into the machine.
- If the machine has been exposed to rain or water.
- If the machine does not operate properly after instructions have been followed.
- If the machine has been dropped, or the cabinet appears damaged.
- If the machine exhibits a sudden and distinct change in performance.

14 Adjust only those controls covered by the operating instructions. Improper adjustment of other controls may result in damage, and may require extensive work by a qualified service technician to restore the machine to normal operation.

15 Avoid using this machine during a lightning storm. There may be a remote risk of electric shock from lightning. If possible, unplug the AC power for the duration of the lightning storm.

16 If you continuously print multiple pages, the surface of the output tray may become hot. Be careful not to touch the surface, and keep children away from the surface.

17 The Power cord supplied with your machine should be used for safe operation. If you are using a cord which is longer than 2 m with 110 V machine, then it should be 16 AWG[1] or bigger.

18 SAVE THESE INSTRUCTIONS.

Environmental and Safety Consideration

Laser Safety Statement

The printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR, chapter 1 Subchapter J for Class I(1) laser products, and elsewhere, is certified as a Class I laser product conforming to the requirements of IEC 825.

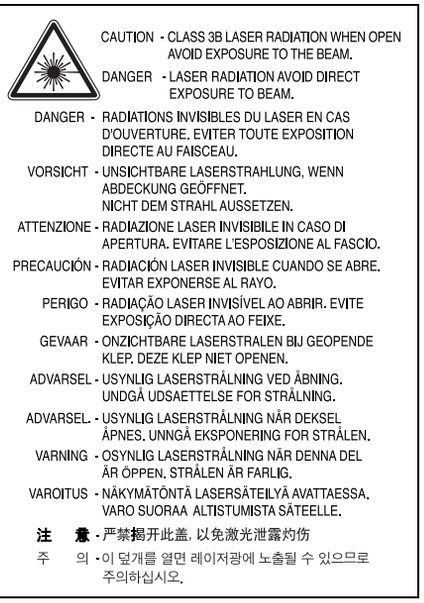
Class I laser products are not considered to be hazardous. The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance, or prescribed service condition.

Warning

Never operate or service the printer with the protective cover removed from Laser/Scanner assembly. The reflected beam, although invisible, can damage your eyes.

1 AWG: American Wire Gauge

When using this product, these basic safety precautions should always be followed to reduce risk of fire, electric shock, and injury to persons:



Ozone Safety

During normal operation, this machine produces ozone. The ozone produced does not present a hazard to the operator. However, it is advisable that the machine be operated in a well ventilated area.

If you need additional information about ozone, please contact your nearest Samsung dealer.

Power Saver

This printer contains advanced energy conservation technology that reduces power consumption when it is not in active use.

When the printer does not receive data for an extended period of time, power consumption is automatically lowered.

ENERGY STAR and the ENERGY STAR mark are registered U.S. marks.

For more information on the ENERGY STAR program see http://www.energystar.gov

Recycling

Please recycle or dispose of packaging materials for this product in an environmentally responsible manner.

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

Radio Frequency Emissions

FCC Regulations

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution:

Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

Canadian Radio Interference Regulations

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled “Digital Apparatus”, ICES-003 of the Industry and Science Canada.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: “Appareils Numériques”, ICES-003 édictée par l’Industrie et Sciences Canada.

Declaration of Conformity (European Countries)

Approvals and Certifications

CE The CE marking applied to this product symbolises Samsung Electronics Co., Ltd. Declaration of Conformity with the following applicable 93/68/EEC Directives of the European Union as of the dates indicated:

January 1, 1995: Council Directive 73/23/EEC Approximation of the laws of the member states related to low voltage equipment.

January 1, 1996: Council Directive 89/336/EEC (92/31/EEC), approximation of the laws of the Member States related to electromagnetic compatibility.

March 9, 1999: Council Directive 1999/5/EC on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity.

A full declaration, defining the relevant Directives and referenced standards can be obtained from your Samsung Electronics Co., Ltd. representative.

Replacing the Fitted Plug (for UK Only)

Important

The mains lead for this machine is fitted with a standard (BS 1363) 13 amp plug and has a 13 amp fuse. When you change or examine the fuse, you must re-fit the correct 13 amp fuse. You then need to replace the fuse cover. If you have lost the fuse cover, do not use the plug until you have another fuse cover.

Please contact the people from you purchased the machine.

The 13 amp plug is the most widely used type in the UK and should be suitable. However, some buildings (mainly old ones) do not have normal 13 amp plug sockets. You need to buy a suitable plug adaptor. Do not remove the moulded plug.

Warning

If you cut off the moulded plug, get rid of it straight away.

You cannot rewire the plug and you may receive an electric shock if you plug it into a socket.

Important warning: You must earth this machine.

The wires in the mains lead have the following color code:

- Green and Yellow: Earth
- Blue: Neutral
- Brown: Live

If the wires in the mains lead do not match the colors marked in your plug, do the following:

You must connect the green and yellow wire to the pin marked by the letter “E” or by the safety ‘Earth symbol’ or colored green and yellow or green.

You must connect the blue wire to the pin which is marked with the letter “N” or colored black.

You must connect the brown wire to the pin which is marked with the letter “L” or colored red.

You must have a 13 amp fuse in the plug, adaptor, or at the distribution board.

SAMSUNG ELECTRONICS

Declaration of Conformity

For the following product:
Color Laser Printer

Manufactured at:
of Samsung Electronics Co., Ltd.
#259, Gongdan-Dong, Gumi-City, Gyeongsangbuk-Do, 730-030 Korea

of Samsung Electronics(Shandong) Digital Printing Co., Ltd.
264209, Samsung Road, Weihai Hi-Tech IDZ, Shandong Province, China
(Factory name, address)

We hereby declare, that the product above is in compliance with the essential requirements of the Low Voltage Directive (2006/95/EC) and EMC Directive (2004/108/EC) by application of:
EN60950-1:2001+A11:2004
EN55022:1998+A1:2000+A2:2003
EN61000-3-2:2000
EN61000-3-3:1995+A1:2001
EN55024:1998+A1:2001+A2:2003

The Technical documentation is kept at the below Manufacturer's address.

Manufacturer

Samsung Electronics Co., Ltd.
#259, Gongdan-Dong, Gumi-City
Gyungbuk, Korea 730-030

July 24, 2007

Whan-Soon Yim / Senior Manager

Representative in the EU:

Samsung Electronics Euro QA Lab.
Blackbushe Business Park
Saxony Way, Yateley, Hampshire
GU46 6GG, UK

July 24, 2007
(Place and date of issue)

Yong Sang Park / S. Manager
(Name and signature of authorized person)

Page 1 of 1

1 Introduction

Congratulations on the purchase of your printer.

This chapter includes:

- **Special features**
- **Machine overview**
- **Control panel overview**
- **Understanding the Control Panel**

Note

Some features are optional. Please check the specifications sections. (See "Specifications" on page 10.1.)

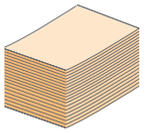
Special features

Your new machine is equipped with special features.

Print with excellent quality and speed

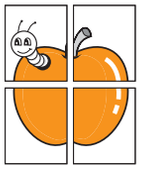
- You can print in a full range of colors using cyan, magenta, yellow, and black.
- You can print with a resolution of up to **2400 x 600 dpi**. See Software section.
- Your machine prints A4-sized paper at up to 19 ppm[a] in black and white mode and 5 ppm in color mode.
- The machine checks your continent and sets the color or tints of sky and grass automatically according to your continental color preference. See Software section for detailed information.

Handle different paper options with flexibility



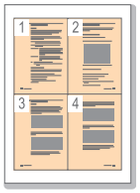
- The Standard 150-sheet tray supports A4/letter-sized paper and special materials like letterhead, envelopes, lables, custom-sized materials, postcards, transparency, and heavy paper.
- The **150-sheet tray 1** and **250-sheet optional tray 2** support plain paper in various sizes.

Create professional documents



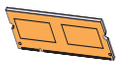
- Print **Watermarks**. You can customize your documents with words, such as “Confidential”. See Software section.
- Print **Posters**. The text and pictures of each page of your document are magnified and printed across the sheet of paper and can then be taped together to form a poster. See Software section.
- Print **Booklets**. This feature enables you to easily print a document to creat a book. Once printed, all you have to do is fold and staple the pages. See Software section.

Save time and money



- To save paper, you can print multiple pages on one single sheet of paper.
- This machine automatically **conserves electricity** by substantially reducing power consumption when not in use.
- You can manually print on both sides of the paper **(Manual double-sided printing)** in Windows and macintosh. See Software section.

Expand your machine’s capacity



- Your machine has an extra memory slot to expand the memory. (Page 8.1)
- Zoran IPS Emulation* compatible with **PostScript 3 Emulation*** (PS) enables PS printing.

* Zoran IPS Emulation compatible with PostScript 3

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* 136 PS3 fonts
Contains UFST and MicroType from Monotype Imaging Inc.

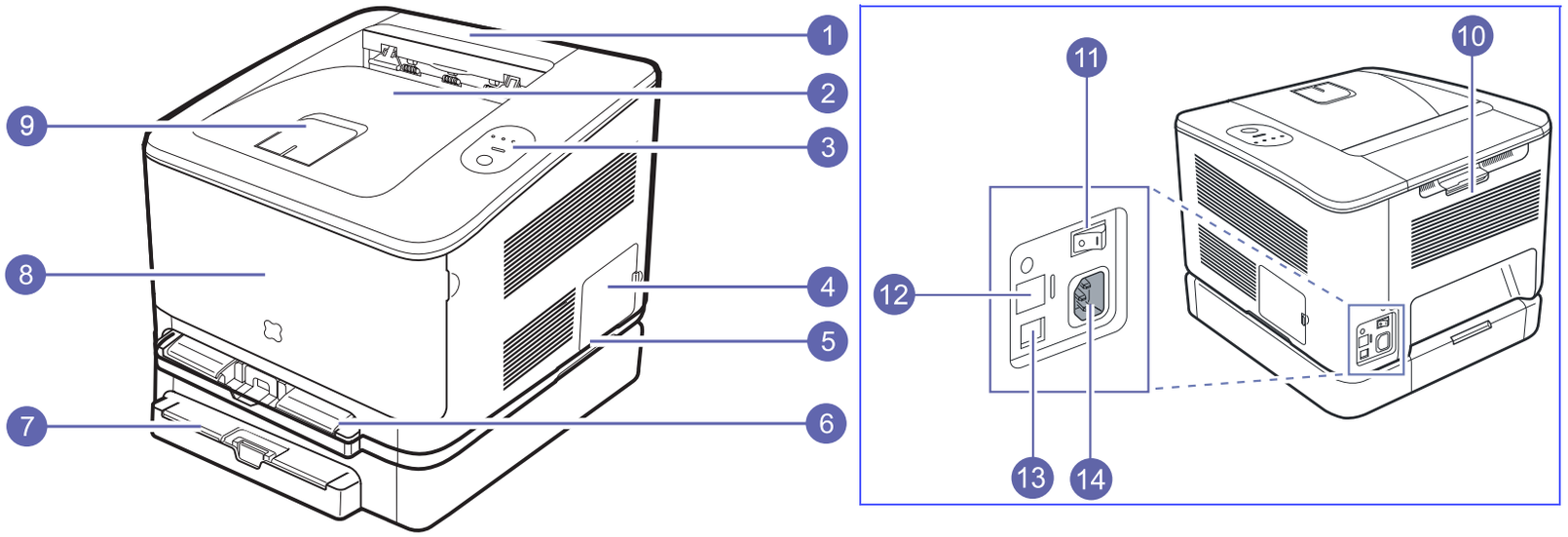
Print in various environments

- You can print with **Windows 2000** and **Windows XP/ 2003/Vista** as well as **Linux** and **Macintosh** systems.
- Your machine is equipped with a **USB** interface and a **network** interface.

a. pages per minute
b. images per minute

Machine overview

These are the main components of your machine.



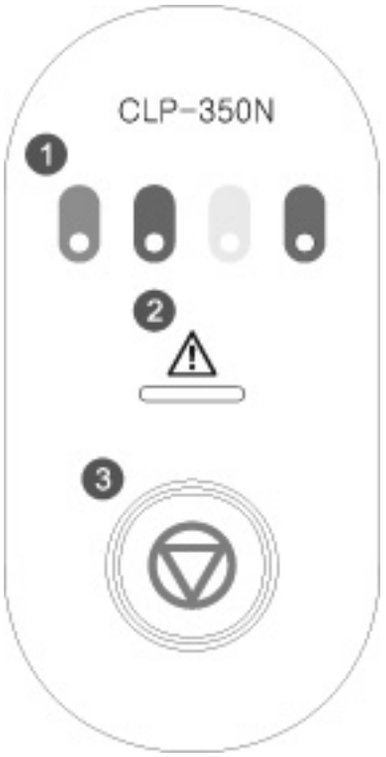
- The figure above shows your machine with the available accessories. (See page 8.1 for more information)
- The symbol * denotes an optional device.

1	top cover	8	front cover
2	output tray(face down)	9	output support
3	control panel	10	rear cover
4	control board cover	11	power switch
5	handle	12	network port
6	tray 1	13	usb port
7	optional tray*	14	power receptacle

Note

- All illustrations on this user's guide may differ from your machine depending on its options or models.
- The surface of the output tray may become hot if you print a large number of pages at once. Please make sure that you try not to touch the surface, and do not allow children near it.

Control panel overview



1	**toner colors**: Show the status of each toner cartridge. See Status LED with the toner cartridge messages on page 1.4.
2	**Status**: Shows the status of your machine. (See "Understanding the Control Panel" on page 1.4 for more information.)
3	**Stop**: Stops an operation at any time and there are more functions. (See "Understanding the Control Panel" on page 1.4 for more information.)

Understanding the Control Panel

LEDs

The color of the **Status** and toner colors LED indicates the machine's current status.

Status LED	toner colors LED	Description
lights green	All LEDs off	The machine is ready to print.
slowly blinks green	All LEDs off	The machine is receiving data from the computer.
fast blinks green	All LEDs off	The machine is printing data.
lights red	All LEDs off	• The machine is experiencing an error, such as jammed paper, open cover, empty paper, not installed waste toner container, or full waste toner container. • The machine is experiencing a service required error, such as LSU error, fuser error, or ITB error, Contact your sales or service representative.
lights green	each LED blinks red	Each toner cartridge is near the end of its life.
blinks red	each LED lights red	Each toner cartridge is almost empty. You can print, but the quality is not reliable.
lights red	each LED lights red	• Each toner cartridge is totally exhausted. You can not print. • Each toner cartridge is wrong.
lights green	each LED blinks red in a repeated order	The machine is warming up.

Note

All printing errors will be appear in the **Smart Panel** program window.

Stop button

Status LED	Description
Printing demo page	In Ready mode, press and hold this button for about 2 seconds until the **Status** LED blinks slowly, and release.
Printing configuration sheets	In Ready mode, press and hold this button for about 5 seconds until the **Status** LED blinks fast, and release.
Canceling print job	Press this button during printing. The red LED blinks while the print job is cleared from both the machine and the computer, and then the machine returns to Ready mode. This may take some time depending on the size of the print job.

2 Software overview

This chapter gives you an overview of the software that comes with your machine. Further details on how to use the software are explained in the Software section.

This chapter includes:

- **Supplied software**
- **Printer driver features**
- **System requirements**

Supplied software

You must install the machine software using the supplied CDs after you have set up your machine and connected it to your computer.

Each CD provides you with the following software:

CD	Contents	
Printer software CD	Windows	• **Printer driver**: Use this driver to take full advantage of your machine's features. • **PostScript Printer Description (PPD) file**: Use the PostScript driver to print documents with complex fonts and graphics in the PS language. • **Smart Panel**: This program allows you to monitor the machine's status and alerts you when an error occurs during printing. • **SetIP**: Use this program to set your machine's TCP/IP addresses. • User's Guide in PDF
	Linux	• **PostScript Printer Description (PPD) file**: Use this driver to run your machine from a Linux computer and print documents. • **Smart Panel**: This program allows you to monitor the machine's status and alerts you when an error occurs during printing.
	Macintosh	• **Postscript Printer Description (PPD) file**: Use this file to run your machine from a Macintosh computer and print documents. • **Smart Panel**: This program allows you to monitor the machine's status and alerts you when an error occurs during printing.

Printer driver features

Your printer drivers support the following standard features:

- Paper source selection
- Paper size, orientation and media type
- Number of copies

In addition, you can use various special printing features. The following table shows a general overview of features supported by your printer drivers:

Printer driver

Feature	Windows	Linux	Macintosh
Color mode	O	O	O
Machine quality option	O	O	O
Poster printing	O	X	X
Manual double-sided printing	O	X	X
Multiple pages per sheet (N-up)	O	O (2, 4)	O (2, 4, 6, 9, 16)
Fit to page printing	O	X	X
Scale printing	O	X	O
Booklet printing	O	X	X
Watermark	O	X	X
Overlay	O	X	X

Note
If you want to change the printer language, go to printer properties, and change the printer language in Printer tab.

PostScript driver

Feature	Windows	Linux	Macintosh
Color mode	O	O	O
Machine quality option	O	O	O
Poster printing	X	X	X
Multiple pages per sheet (N-up)	O	O (2, 4)	O (2, 4, 6, 9, 16)
Fit to page printing	O	X	X
Scale printing	O	X	O
Watermark	X	X	X
Overlay	X	X	X

System requirements

Before you begin, ensure that your system meets the following requirements:

Windows

Your machine supports the following Windows operating systems.

OS	Requirement (recommended)		
	CPU	RAM	free HDD space
Windows 2000	Pentium II 400 MHz (Pentium III 933 MHz)	64 MB (128 MB)	300 MB
Windows XP	Pentium III 933 MHz (Pentium IV 1 GHz)	128 MB (256 MB)	1.5 GB
Windows 2003 Server	Pentium III 933 MHz (Pentium IV 1 GHz)	128 MB (512 MB)	1.25 GB to 2 GB
Windows Vista	Pentium IV 3 GHz	512 MB (1024 MB)	15 GB

Note

- Internet Explorer 5.0 or higher is the minimum requirement for all Windows operating systems.
- For Windows 2000/XP/2003/Vista, users who have an administrator right can install the software.

Linux

Item	Requirements
Operating system	• Red Hat 8 ~ 9 • Fedora Core 1 ~ 4 • Mandrake 9.2 ~ 10.1 • SuSE 8.2 ~ 9.2
CPU	Pentium IV 1 GHz or higher
RAM	256 MB or higher
Free disk space	1 GB or higher
Software	• Linux Kernel 2.4 or higher • Glibc 2.2 or higher • CUPS

Macintosh

Item	Requirements
Operating system	Macintosh 10.3 ~ 10.4
CPU	Intel processor PowerPC G4 /G5
RAM	512 MB for an Intel-based Mac, 128 MB for a Power-PC based Mac
HDD	1 GB
Connection	USB interface or Network interface

3 Getting Started

This chapter gives you step-by-step instructions for setting up the machine.

This chapter includes:

- **Setting up the hardware**
- **Setting up the network**
- **Installing the software**
- **Altitude adjustment**

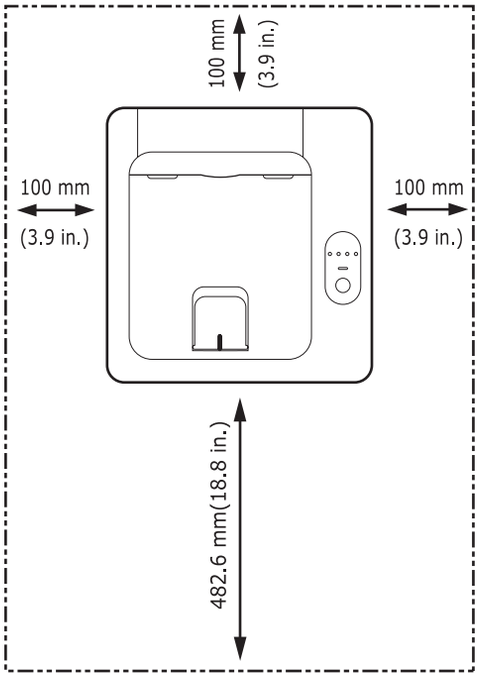
Setting up the hardware

This section shows the steps to set up the hardware which is explained in the Quick Install Guide. Make sure you read Quick Install Guide and complete following steps.

1 Select a stable location.

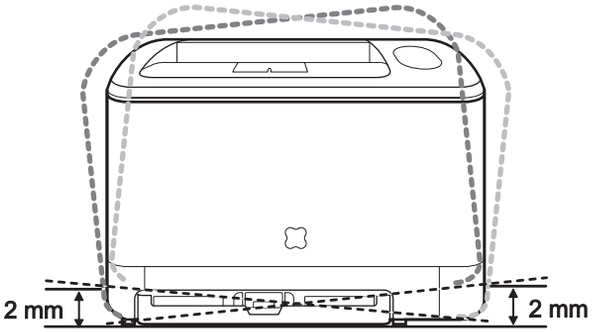
Select a level, stable place with adequate space for air circulation. Allow extra space to open covers and trays.

The area should be well-ventilated and away from direct sunlight or sources of heat, cold, and humidity. Do not set the machine close to the edge of your desk or table.



Printing is suitable for altitudes under 1,000 m (3,281 ft). Refer to the altitude setting to optimize your printing. See page 3.4 for more information.

Place the machine on a flat and stable surface for not letting it tilt more than 2 mm (0.08 inches). Otherwise, it may affect the printing quality.



2 Unpack the machine and check all the enclosed items.

3 Remove the tape holding the machine tightly.

4 Install both the toner cartridge.

5 Load paper. (See "Loading paper" on page 4.4.)

6 Make sure that all the cables are connected to the machine.

7 Turn the machine on.

Caution

When you move the machine, do not tilt or turn it upside down. Otherwise, the inside of the machine may be contaminated by toner, which can cause damage to the machine or bad printing quality.

Setting up the network

You need to set up the network protocols on the machine to use it as your network printer.

Note

- If you want to use the USB cable, connect the cable between a computer and you machine. Then, refer to the software installation in Software section.

Supported operating systems

The following table shows the network environments supported by the machine:

Item	Requirements
Network interface	10/100 Base-TX
Network operating system	Windows 2000/XP/Vista Various Linux OS Macintosh 10.3 ~ 10.5 (CLP-610 series)
Network protocols	TCP/IP, DLC/LLC, IPP, SNMP
Dynamic addressing server	DHCP, BOOTP

Note

- **SyncThru™ Web Admin Service**: Web-based printer management solution for network administrators. **SyncThru™ Web Admin Service** provides you with an efficient way of manageing network devices and lets you remotely monitor and troubleshoot network machines from any sith with corporate internet access. Download this program from **http://solution.samsungprinter.com**.
- **SyncThru™ Web Service**: A Web server embedded to your network print server, which allows you to configure the network parameters necessary for the printer to connect to various network environments.
- **SetIP**: Utility program allowing you to select a network interface and manually configure the IP addresses for use with the TCP/IP protocol. See "Using SetIP program" on page 3.2.

Using SetIP program

This program is for the network IP setting using the MAC address which is the hardware serial number of the network printer card or interface. Especially, it is for the network administrator to set several network IPs at the same time.

1 Insert the driver CD provided along with your machine.

2 Start Windows Explorer and open the X drive. (X represents your CD-ROM drive.)

3 Double click **Application** > **SetIP**.

4 Open the language folder you want to use.

5 Double click Setup.exe to install this program.

6 From the Windows Start menu, select **Programs** > **Samsung Network Printer Utilities** > **SetIP**.

7 Select the name of your printer and click " ".

Note

If you cannot find your printer name click " " to refresh the list.

8 Enter the network card's MAC address, IP address, subnet mask, default gateway, and then click **Apply.**

Note

If you do not know the network card's MAC address, print the machine's network information report.

9 Click **OK** to confirm the settings.

10 Click **Exit** to close the SetIP program.

Note

If you want to setup DHCP network protocol, go to the http://developer.apple.com/networking/bonjour/download/, select the program Bonjour for Windows due to your computer operating system, and install the program. This program will allow you to fix the network parameter automatically. Follow the instruction in the installation window. This program does not support Linux.

Installing the software

You have to install the machine software for printing. The software includes drivers, applications, and other user friendly programs.

Note

- The following procedure is for when you use the machine as a network machine. If you want to connect a machine with a USB cable, refer to the Software section.
- The following procedure is based on the Windows XP operating system. The procedure and popup window which appears during the installation may differ depending on the operating system, the printer feature, or the interface in use. (See Software section.)

1 Make sure that the network setup for your machine is completed. (See "Setting up the network" on page 3.1.) All applications should be closed on your computer before beginning installation.

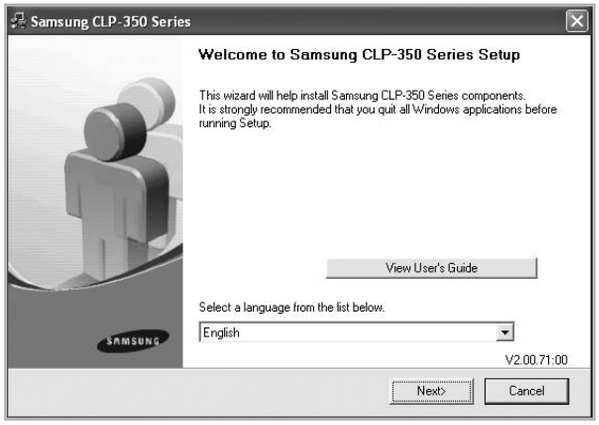
2 Insert the Printer Software CD-ROM into your CD-ROM drive.

The CD-ROM should automatically run, and an installation window appears.

3 Click **Next**.

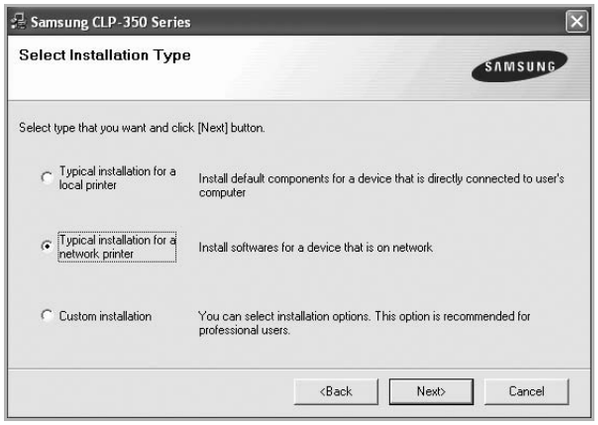
If the installation window does not appear, click **Start** > **Run**. Type X:**Setup.exe**, replacing “X” with the letter which represents your drive and click **OK**.

If you use Windows Vista, click **Start** > **All Programs** > **Accessories** > **Run**, and type X:**Setup.exe**.

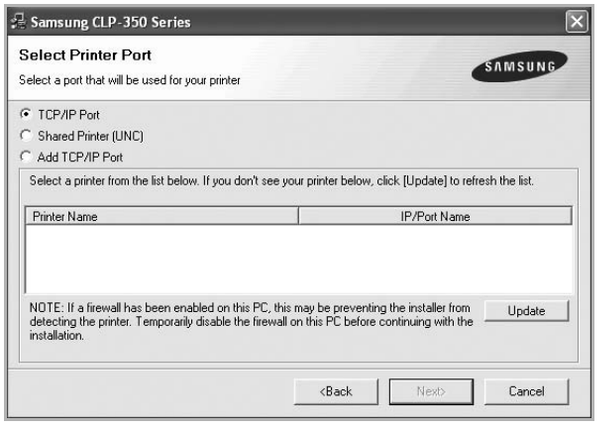


- The window above may slightly differ, if you are reinstalling the driver.
- **View User’s Guide**: Allows you to view the User’s Guide. If your computer does not have Adobe Acrobat, click on this option and it will automatically install Adobe Acrobat Reader for you, and then open the User’s Guide.

4 Select **Typical installation for a network printer**, and then click **Next**.



5 The list of machines available on the network appears. Select the printer you want to install from the list and then click **Next**.

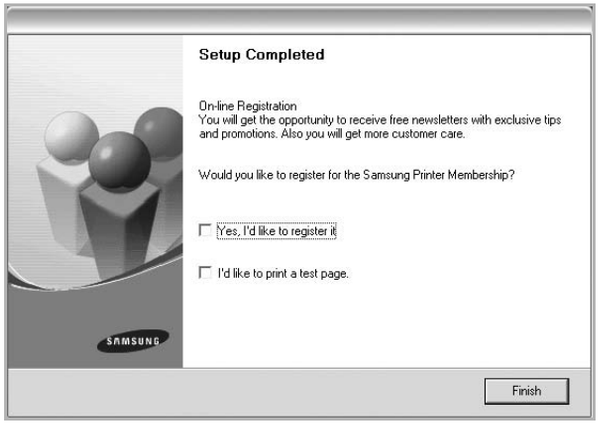


- If you do not see your machine on the list, click **Update** to refresh the list, or select **Add TCP/IP Port** to add your machine to the network. To add the machine to the network, enter the port name and the IP address for the machine.
  To verify your machine’s IP address or the MAC address, print a Network Configuration page. (See "Printing a machine configuration report" on page 6.1.)
- To find a shared network printer (UNC Path), select **Shared Printer [UNC]** and enter the shared name manually or find a shared printer by clicking the **Browse** button.

Note

If you are not sure of the IP address, contact your network administrator or print network information. (See "Printing a machine configuration report" on page 6.1.)

6 After the installation is finished, a window appears asking you to print a test page and to register yourself as a user of Samsung machines in order to receive information from Samsung. If you so desire, select the corresponding checkbox(es) and click **Finish**.

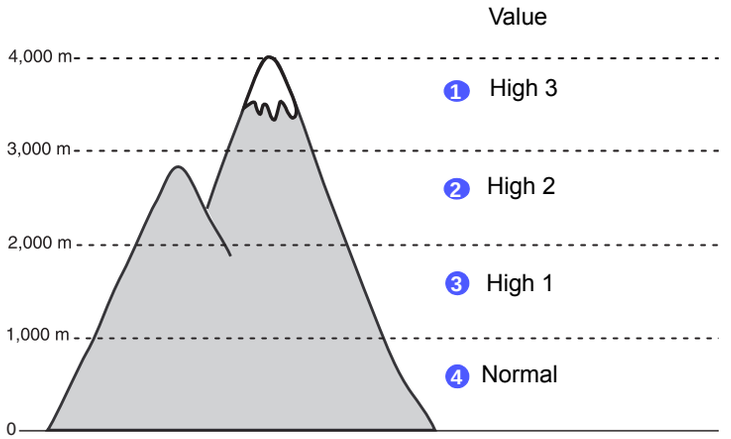


Note
If your machine does not work properly after the installation, try to reinstall the printer driver. See Software section.

Altitude adjustment

The print quality is affected by atmospheric pressure, which is determined by the height of the machine above sea level. The following information will guide you on how to set your machine to the best print quality or best quality of print.

Before you set the altitude value, find the altitude where you are using the machine.



1 Ensure that you have installed the printer driver with the provided Printer Software CD.

2 Double-click the **Smart Panel** icon on the Windows task bar (or Notification Area in Linux).
You can also click **Smart Panel** on the status bar in Mac OS X.

3 Click **Printer Setting**.

4 Click **Setting** > **Altitude Adjustment**. Select the appropriate value from the dropdown list, and then click **Apply**.

Note
If your machine is connected to a network, **SyncThru Web Service** screen appears automatically. Click **Machine Settings** > **Setup** (or **Machine Setup**) > **Altitude Adj**. Select the appropriate altitude value, and then click **Apply**.

4 Selecting and loading print media

This chapter introduces you how select and load print media for your machine.

This chapter includes:

- **Selecting print media**
- **Verifying the output location**
- **Loading paper**
- **Printing on special print materials**
- **Setting the paper size and type**

Selecting print media

You can print on a variety of print media, such as plain paper, envelopes, and labels. Always use print media that meet the guidelines for use with your machine. Print media that does not meet the guidelines outlined in this user's guide may cause the following problems:

- Poor print quality
- Increased paper jams
- Premature wear on the machine.

Properties, such as weight, composition, grain, and moisture content, are important factors that affect the machine's performance and the output quality. When you choose print materials, consider the following:

- The type, size and weight of the print media for your machine are described later in this section.
- Desired outcome: The print media you choose should be appropriate for your project.
- Brightness: Some print media are whiter than others and produce sharper, more vibrant images.
- Surface smoothness: The smoothness of the print media affects how crisp the printing looks on the paper.

Note

- Some print media may meet all of the guidelines in this section and still not produce satisfactory results. This may be the result of improper handling, unacceptable temperature and humidity levels, or other variables over which Samsung has no control.
- Before purchasing large quantities of print media, ensure that it meets the requirements specified in this user's guide.

Caution

Using print media that does not meet these specifications may cause problems, requiring repairs. Such repairs are not covered by Samsung's warranty or service agreements.

Guidelines for selecting and storing print media

When selecting or loading paper, envelopes, or other print materials, keep these guidelines in mind:

- Always use print media that conform with the specifications listed on page 4.2.
- Attempting to print on damp, curled, wrinkled, or torn paper can cause paper jams and poor print quality.
- For the best print quality, use only high quality copier grade paper specifically recommended for use in laser machines.
- Avoid using the following media types:
  - Paper with embossed lettering, perforations, or a texture that is too smooth or too rough
  - Erasable bond paper
  - Multi-paged paper
  - Synthetic paper and thermally reactive paper
  - Carbonless paper and Tracing paper.

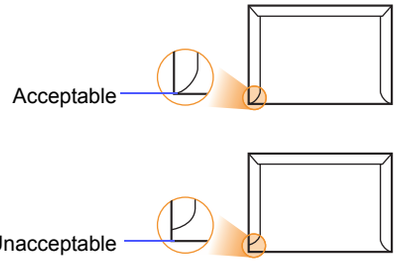
  Use of these types of paper could result in paper jams, chemical smells, and damage to your machine.
- Store print media in its ream wrapper until you are ready to use it. Place cartons on pallets or shelves, not on the floor. Do not place heavy objects on top of the paper, whether it is packaged or unpackaged. Keep it away from moisture or other conditions that can cause it to wrinkle or curl.
- Store unused print media at temperatures between 15 °C and 30 °C. The relative humidity should be between 10% and 70%.
- Store unused print media in a moisture-proof wrap, such as a plastic container or bag, to prevent dust and moisture from contaminating your paper.
- Load special media types one sheet at a time through the multi-purpose tray to avoid paper jams.
- To prevent print media, such as label sheets, from sticking together, remove them as they print out.

Specifications on print media

Type[a]	Size	Dimensions	Weight	Capacity[b]
Plain paper	Letter	216 x 279 mm (8.5 x 11 inches)	• 60 to 90 g/m^2 (16 to 24 lb bond) for the tray 1 • 60 to 105 g/m^2 (16 to 28 lb bond) for manual feeding in the tray 1	• 150 sheets of 75 g/m^2 (20 lb bond) paper for the tray 1 • 1 sheet for manual feeding in the tray 1 • 250 sheets of 75 g/m^2 (20 lb bond) paper for optional tray
	Legal	216 x 356 mm (8.5 x 14 inches)		
	Folio	216 x 330 mm (8.5 x 13 inches)		
	A4	210 x 297 mm (8.26 x 11.69 inches)		
	Oficio	216 x 343 mm (8.5 x 13.5 inches)		
	JIS B5	182 x 257 mm (7.16 x 10.11 inches)		
	Executive	184 x 267 mm (7.25 x 10.5 inches)		
	Statement	140 x 216 mm (5.50 x 8.50 inches)		
	A5	148 x 210 mm (5.82 x 8.26 inches)		
	A6	105 x 148 mm (4.13 x 5.82 inches)		
Envelope	Monarch	98 x 191 mm (3.87 x 7.5 inches)	75 to 90 g/m^2 (20 to 24 lb bond)	1 sheet for manual feeding in the tray 1
	No. 10	105 x 241 mm (4.12 x 9.5 inches)		
	DL	110 x 220 mm (4.33 x 8.66 inches)		
	C5	162 x 229 mm (6.37 x 9.01 inches)		
	C6	114 x 162 mm (4.48 x 6.38 inches)		
	No.9	98 x 225 mm (3.87 x 8.87 inches)		
	6 3/4	92 x 165 mm (3.62 x 6.5 inches)		
Thick paper	Refer to the Plain paper section	Refer to the Plain paper section	90 to 105 g/m^2 (24 to 28 lb bond)	1 sheet for manual feeding in the tray 1
Thin paper	Refer to the Plain paper section	Refer to the Plain paper section	60 to 70 g/m^2 (16 to 19 lb bond)	1 sheet for manual feeding in the tray 1
Labels[c]	Letter, A4	Refer to the Plain paper section	120 to 150 g/m^2 (32 to 40 lb bond)	1 sheet for manual feeding in the tray 1
Transparency[d]	Letter, A4	Refer to the Plain paper section	138 to 146 g/m^2 (37 to 39 lb bond)	
Card stock	Post card	101.6 x 152.4 mm (4 x 6 inches)	105 to 163 g/m^2 (28 to 43 lb bond)	
Minimum size (custom)		76 x 127 mm (3 x 5 inches)	60 to 163 g/m^2 (16 to43 lb bond)	
Maximum size (custom)		216 x 356 mm (8.5 x 14 inches)		

a. The printer supports a wide range of media sizes.
b. Maximum capacity may differ depending on media weight, thickness, and environmental conditions.
c. Smoothness: 100 to 250 (sheffield)
d. Recommended media: Transparency for a color laser printer by 3M such as PP2500.

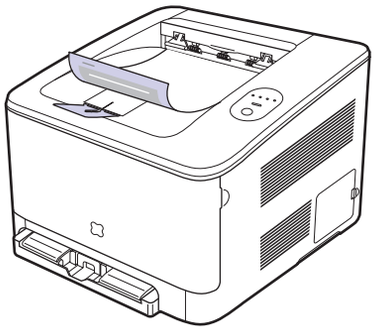
Guidelines for special print media

Media type	Guidelines
Envelopes	• Successful printing on envelopes depends upon the quality of the envelopes. When selecting envelopes, consider the following factors: - Weight: The weight of the envelope paper should not exceed 90 g/m^2 or jamming may occur. - Construction: Prior to printing, envelopes should lie flat with less than 6 mm curl, and should not contain air. - Condition: Envelopes should not be wrinkled, nicked, or otherwise damaged. - Temperature: You should use envelopes that are compatible with the heat and pressure of the machine during operation. • Use only well-constructed envelopes with sharp and well creased folds. • Do not use stamped envelopes. • Do not use envelopes with clasps, snaps, windows, coated lining, self-adhesive seals, or other synthetic materials. • Do not use damaged or poorly made envelopes. • Be sure the seam at both ends of the envelope extends all the way to the corner of the envelope. 
	• Envelopes with a peel-off adhesive strip or with more than one flap that folds over to seal must use adhesives compatible with the machine's fusing temperature for 0.1 second. Check your machine's specification to view the fusing temperature, see page 10.1. The extra flaps and strips might cause wrinkling, creasing, or jams, and may even damage the fuser. • For the best print quality, position margins no closer than 15 mm from the edges of the envelope. • Avoid printing over the area where the envelope's seams meet.

Media type	Guidelines
Labels	• To avoid damaging the machine, use only labels designed for use in laser machines. • When selecting labels, consider the following factors: - Adhesives: The adhesive material should be stable at your machine's fusing temperature. Check your machine's specification to view the fusing temperature, see page 10.1. - Arrangement: Only use labels with no exposed backing between them. Labels can peel off sheets that have spaces between the labels, causing serious jams. - Curl: Prior to printing, labels must lie flat with no more than 13 mm of curl in any direction. - Condition: Do not use labels with wrinkles, bubbles, or other indications of separation. • Make sure that there is no exposed adhesive material between labels. Exposed areas can cause labels to peel off during printing, which can cause paper jams. Exposed adhesive can also cause damage to machine components. • Do not run a sheet of labels through the machine more than once. The adhesive backing is designed for only a single pass through the machine. • Do not use labels that are separating from the backing sheet or are wrinkled, bubbled, or otherwise damaged.
Card stock or custom-sized materials	• Do not print on media smaller than 98 mm wide or 148 mm long. • In the software application, set margins at least 6.4 mm away from the edges of the material.
Preprinted paper	• Letterhead must be printed with heat-resistant ink that will not melt, vaporize, or release hazardous emissions when subjected to the printer's fusing temperature for 0.1 second. Check your machine's specification to view the fusing temperature, see page 10.1. • Letterhead ink must be non-flammable and should not adversely affect printer rollers. • Forms and letterhead should be sealed in a moisture-proof wrapping to prevent changes during storage. • Before you load preprinted paper, such as forms and letterhead, verify that the ink on the paper is dry. During the fusing process, wet ink can come off preprinted paper, reducing print quality.

Verifying the output location

The machine has the output tray that collects paper face-down, in correct order.



Note

- If you continuously print many pages, the surface of the output tray may become hot. Be careful not to touch the surface, and especially keep children away from the surface.
- The output tray can hold up to 100 sheets of paper. Remove the pages so that the tray is not overloaded.

Loading paper

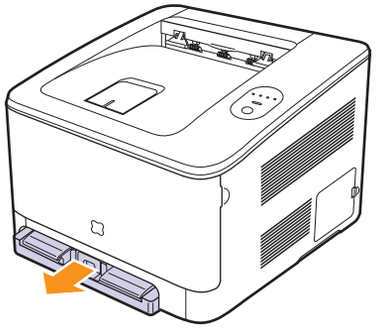
In the tray

Load the print media you use for the majority of your print jobs in the tray 1. The tray 1 can hold a maximum of 150 sheets of 75 g/m^2 (20 lb bond) plain paper.

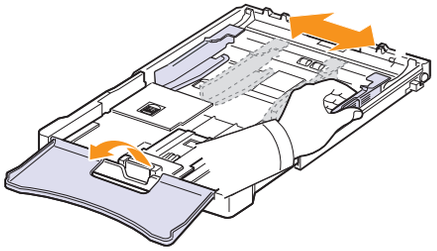
You can purchase an optional tray and attach it below the standard tray to load an additional 250 sheets of paper. (See "Accessories" on page 8.1.)

Loading paper in the tray 1 or optional tray

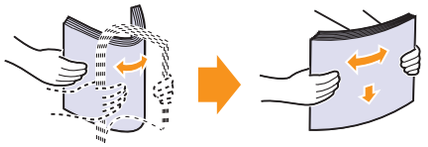
1 Pull the tray out of the machine.



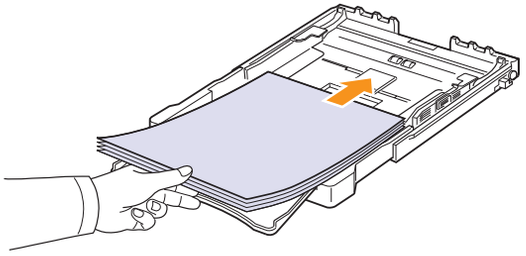
2 Open the paper cover, and enlarge the tray by adjusting the paper width guide.



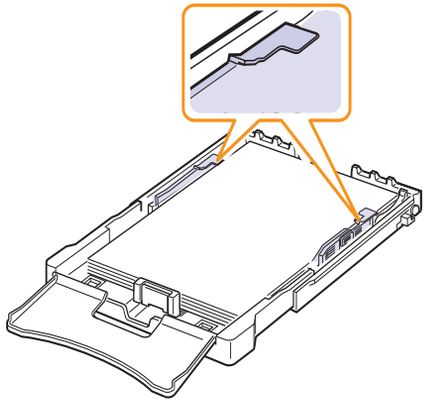
3 Flex the paper sheets back and forth to separate the pages and then dan them while holding one edge. Tap the edges of the stack on a flat surface to even it up.



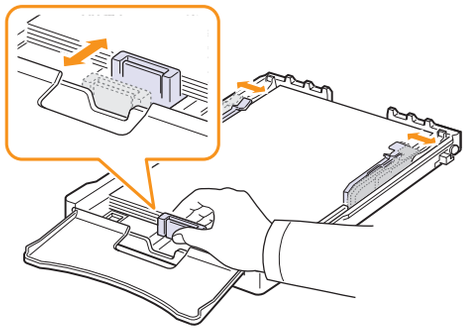
4 Load paper **with the print side up.**



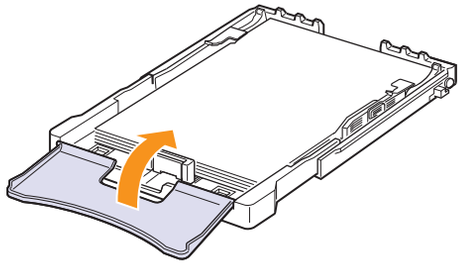
Make sure not to overfill the tray and that all four corners are flat in the tray and under the brackets, as shown below. Overfilling the tray may cause a paper jam.



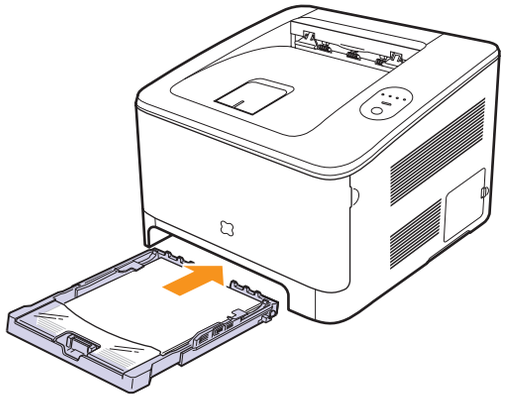
5 Squeeze the paper length guide and slide in it until it lightly touches the end of the paper stack.



6 Close the paper cover.



7 Slide the tray back into the machine until it clicks.



Note

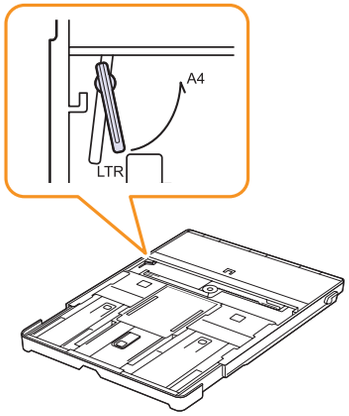
After you load paper, you need to set up your machine for the paper type, size, and source you loaded. See Software section.

Changing the size of the paper in the paper tray

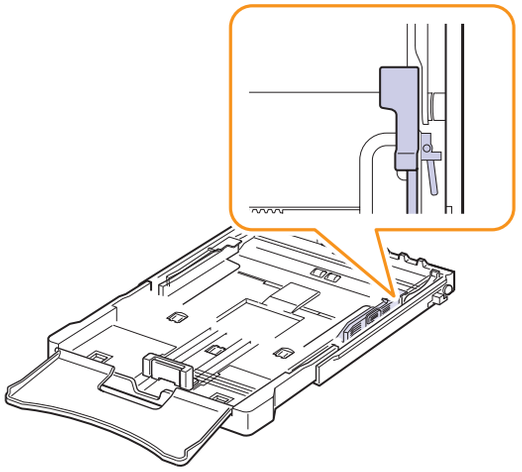
The tray is preset to Letter or A4 size, depending on your country. To change the size to A4 or Letter, you must adjust the lever and paper width guide properly.

1 Pull the tray out of the machine. Open the paper cover and remove paper from the tray if necessary.

2 If you want to change the size to Letter, hold the lever at the back of the tray, and rotate the lever clockwise.



3 Squeeze the paper width guide and slide it to the edge of the lever.

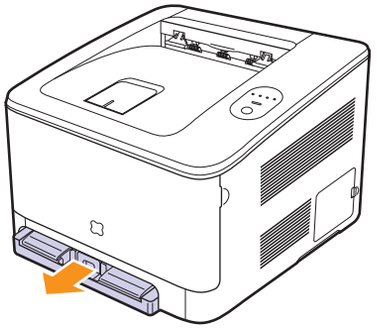


Note

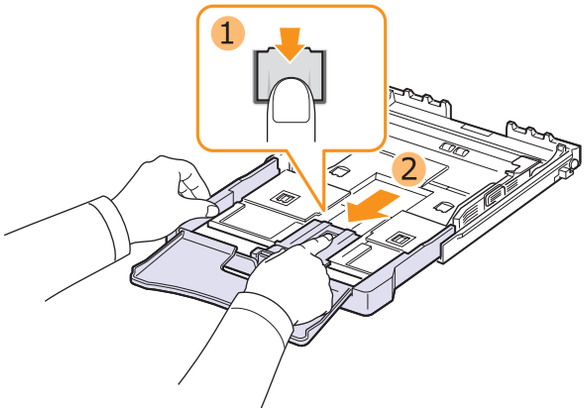
If you want to change the size to A4, first move the paper width guide to left and rotate the lever counterclockwise. If you force the lever, it could damage the tray.

To change the tray size to other size, you must adjust the paper length guide properly.

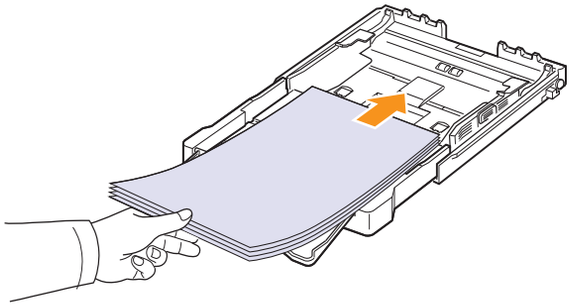
1 Pull the tray out of the machine. Open the paper cover and remove paper from the tray if necessary.



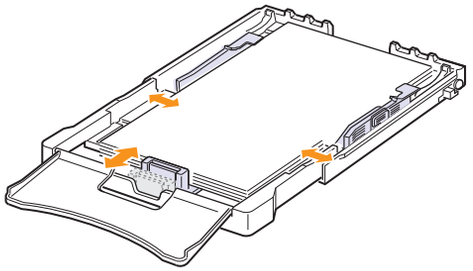
2 Pressing and unlatching the guide lock in the top of the tray, pull the tray out manually.



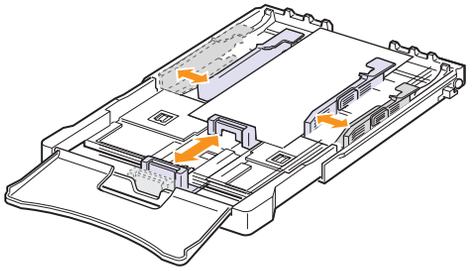
3 Load paper into the tray.



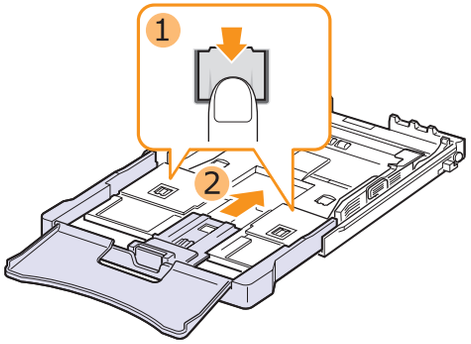
4 Slide the paper length guide until it lightly touches the end of the paper stack. Squeeze the paper width guide and slide it to the edge of the paper stack without causing it to bend.

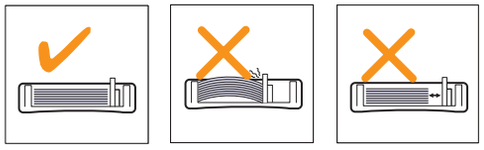


For paper smaller than Letter-sized, return the paper guides to their original positions and adjust the paper length guide and paper width guide.



If the paper that you need to print is shorter than length 222 mm (8.74 inches), press and unlatch the guide lock in the tray, push the tray in manually. Adjust the paper length guide and paper width guide.

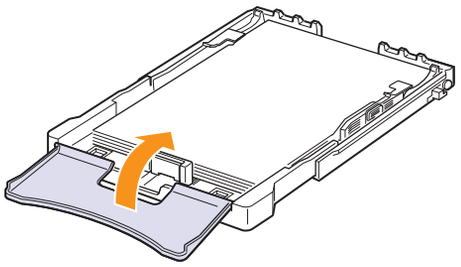




Note

- Do not push the paper width guides far enough to cause the materials to warp.
- If you do not adjust the paper width guides, it may cause paper jams.

5 Close the paper cover.



6 Slide the tray back into the machine until it clicks.

Note

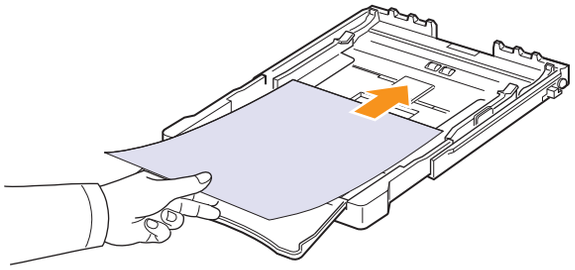
If you adjusted the tray itself to use paper shorter than 222mm (8.74 inches), you may not see the tray from outside of the machine, double-check the tray is installed.

Using manual feed mode

If you select **Manual Feeder** in the Source option, you can manually load paper in the tray. Manually loading paper can be helpful when you want to check the print quality after each page is printed.

If you experience a paper jam from the tray, load one sheet of paper at a time into the tray.

1 Load the print material in the tray with the print side up.



2 Adjust the paper guide against the print material without bending the paper.

3 When you print a document, you must select **Manual Feeder** for Source from the software application, and then select the correct paper size and type. See Software section.

4 Press the **Stop** button on the machine to start feeding.

Note

If you do not press the button after a pause, the paper will be automatically fed into the machine.

5 Printing is started.

6 If you are printing multiple pages, load the next sheet after first page prints out, and press the **Stop** button.

7 Repeat this step for every page to be printed.

Printing on special print materials

Printing on envelopes

- Only use envelopes recommended for your machine. Before loading envelopes in the tray, make sure that they are undamaged and are not stuck together.
- Do not feed stamped envelopes.
- Never use envelopes with clasps, snaps, windows, coated linings, or self-stick adhesives.

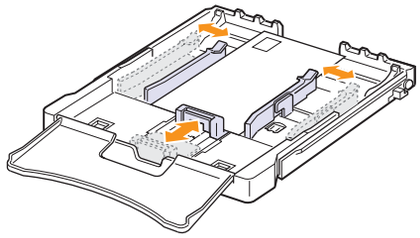
To print on envelope:

1 Squeeze the paper length guide and slide it out to its full length.

2 Load a sheet of envelope in the tray, **with the flap side down**. The end of the envelope with the stamp area enters the machine first.

3 Slide in the paper length guide until it lightly touches the end of the paper stack.

4 Slide the paper width guide to the edge of the envelope without causing it to bend.



Caution

If you print 20 envelopes in succession, the surface of the top cover may become hot. Please exercise caution.

5 When you print, set the paper source to **Manual Feeder** and the paper type to **envelope**, and select the appropriate size in the software application. See Software section.

6 Press the **Stop** button on the machine to start feeding.

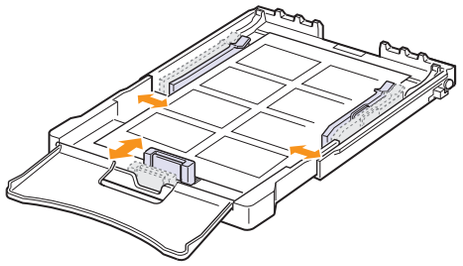
Printing on labels

- Only use labels recommended for your machine.
- Verify that the labels' adhesive material can tolerate a fusing temperature of 180 °C (356 °F) for 0.1 seconds.
- Make sure that there is no exposed adhesive material between the labels. Exposed areas can cause labels to peel off during printing, which can cause paper jams. Exposed adhesive can also cause damage to machine components.
- Never print on the same sheet of labels more than once, or print on a partial sheet of labels.
- Do not use labels that are separating from the backing sheet or are wrinkled or damaged in any way.
- To prevent labels from sticking together, do not let the printed label sheets stack up as they are printed out.

To print on label:

1 Squeeze the paper length guide and slide it out to its full length.

2 Load a sheet of label in the tray, **with the print side up and the top, short edge in first**. Adjust the guides to fit the length and width of the label.



3 When you print, set the paper source to **Manual Feeder** and the paper type to **labels**, and select the appropriate size in the software application. See Software section.

4 Press the **Stop** button on the machine to start feeding.

Printing on transparencies

- Place them on a flat surface after removing them from the machine.
- Do not leave them in the tray for long periods of time. Dust and dirt may accumulate on them resulting in spotty printing.
- To avoid smudging caused by fingerprints, handle them and coated paper carefully.
- To avoid fading, do not expose the printed transparencies to prolonged sunlight.

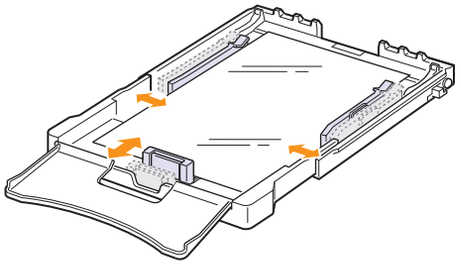
Caution

It is not recommended to use paperbacked transparencies such as Xerox 3R91334, which can cause a jam or be scratched.

To print on transparency:

1 Squeeze the paper length guide and slide it out to its full length.

2 Load a sheet of transparency in the tray, **with the print side up and the top, short edge in first**. Adjust the guides to fit the length and width of the transparency.



3 When you print, set the paper source to **Manual Feeder** and the paper type to **transparency**, and select the appropriate size in the software application. See Software section.

4 Press the **Stop** button on the machine to start feeding.

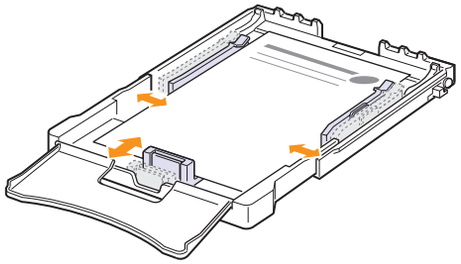
Printing on preprinted paper

- Preprinted paper is paper that has some type of printing on it before it is sent through the machine (paper that has a preprinted logo at the top of the page, for example).
- Letterhead must be printed with heat-resistant ink that will not melt, vaporize, or release hazardous emissions when subjected to the machine's fusing temperature of 180 °C (356 °F) for 0.1 seconds.
- Ink on letterhead must be non-flammable and should not adversely affect machine rollers.
- Forms and letterhead should be sealed in moisture-proof wrapping to prevent changes during storage.
- Before you load preprinted paper, such as forms and letterhead, verify that the ink on the paper is dry. During the fusing process, wet ink can come off of preprinted paper, reducing the print quality.

To print on preprinted paper:

1 Squeeze the paper length guide and slide it out to its full length.

2 Load letterhead in the tray, **with the print side up and the top and short edge first**. Adjust the guides to fit the edge of the paper stack.



3 When you print, set the paper source to **Manual Feeder** and the paper type to **preprinted**, and select the appropriate paper size in the software application. See Software section.

4 Press the **Stop** button on the machine to start feeding.

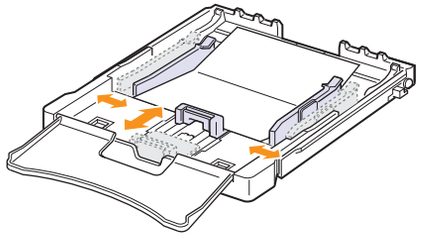
Printing on card stock or custom-sized materials

- Postcards, 3in by 5in (index) cards, and other custom-sized materials can be printed with your machine. The minimum size is 3in by 5in (76mm by 127mm) and the maximum size is 8.5in by 14in (216mm by 356mm).
- Always insert the short edge into the tray first. If you want to print in landscape mode, make this selection using your software. Inserting these materials long edge first may cause a paper jam.
- Do not print on material smaller than 3in (76mm) wide or 5in (127mm) long.
- In the software application, set margins at least 4mm away from the edges of the material.

To print on card stock:

1 Squeeze the paper length guide and slide it out to its full length.

2 Load print material in the tray, **with the print side up and the short edge first**. Adjust the guides to fit the length and width of the material.



Note

If you do not press the button after a pause, the paper will be automatically fed into the machine.

3 When you print, set the paper source to **Manual Feeder** and select the appropriate size and type in the software application. See Software section.
If the size of your print material is not listed in the **size** box in the **paper** tab, click the **custom** button and set the size manually.

4 Press the **Stop** button on the machine to start feeding.

Setting the paper size and type

The settings you change remain in effect only while you are using the current program. To make your changes permanent, make them in the machines folder.

Note
The following procedure is for Windows XP. For other Windows OS, refer to the corresponding Windows User's Guide or online help.

1. Click the **Start** button on the computer screen.
2. Select **Printers and Other Hardwares**.
3. Select **Printers and Faxes**.
4. Right-click on the printer driver icon and select **Printing Preferences**.
5. Click the **Paper** tab, and change the settings on **Paper Options**.
6. Click **OK**.

5 Basic printing

This chapter explains common printing tasks.

- **Printing a document**
- **Canceling a print job**

Printing a document

Your machine allows you to print from various Windows, Macintosh, or Linux applications. The exact steps for printing a document may vary depending on the application you use.

1 Open the document you want to print.

2 Select **Print** from the **File** menu. The Print window is displayed. It may look slightly different depending on your application.

3 Select **your printer driver** from the **Selet Printer** drop-down list.

4 To start the print job, click **OK** or **Print** in the **Print** window.

For details about printing, see Software section.

Canceling a print job

If the print job is waiting in a print queue or print spooler, such as the printer group in Windows, delete the job as follows:

1 Click the Windows **Start** menu.

2 For Windows 2000, select **Settings** and then **Printers**.

For Windows XP/2003, select **Printers and Faxes**.

For Windows Vista, select **Control Panel** → **Hardware and Sound** → **Printers**.

3 Double-click the **Samsung CLP-350 Series** icon. (Or **Samsung CLP-350 Series PS**)

4 From the **Document** menu, select **Cancel**.

Note
You can also access this window by simply double-clicking the printer icon at the bottom right corner of the Windows desktop.

You can also cancel the current job by pressing **Stop** on the control panel.

6 Maintenance

This chapter provides information for maintaining your machine and the toner cartridge.

This chapter includes:

- **Printing a machine configuration report**
- **Cleaning your machine**
- **Maintaining the cartridge**
- **Redistributing toner**
- **Replacing the toner cartridge**
- **Replacing the Imaging Unit**
- **Replacing the Waste Toner Container**
- **Maintenance Parts**
- **Managing your machine from the website**

Printing a machine configuration report

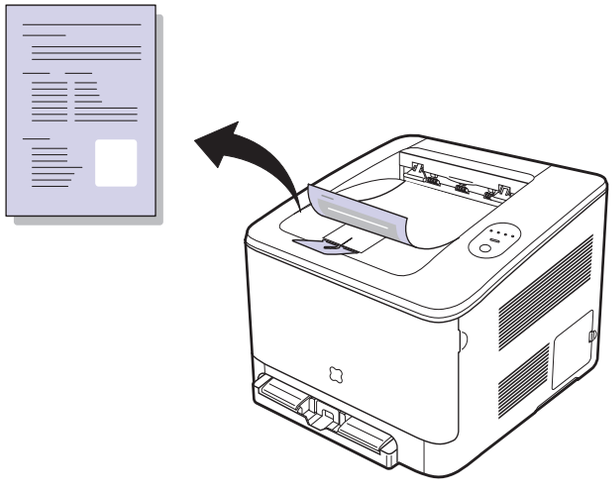
You can print the machine's information and job report.

You can print a configuration report from the machine's control panel. Use the configuration page to view the current settings, to help troubleshoot problems.

To print a configuration page:

In Ready mode, press and hold the **Stop** button on the control panel for about 5 seconds.

A configuration page prints out.



Cleaning your machine

During the printing process, particles of paper, toner, and dust can accumulate inside the machine. Over time, this build-up can cause print quality problems such as toner specks or smearing. Your machine has a cleaning mode that can correct and prevent these types of problems.

Cleaning the outside

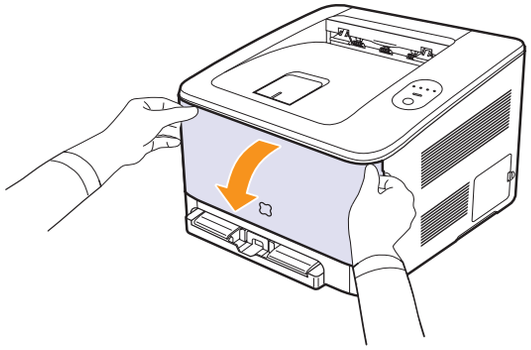
Clean the machine cabinet with a soft, lint-free cloth. You can dampen the cloth slightly with water, but be careful not to let any water drip onto or into the machine.

Caution
Cleaning the machine cabinet with cleaning materials that contain large amounts of alcohol, solvent, or other strong substances can discolor or damage the cabinet.

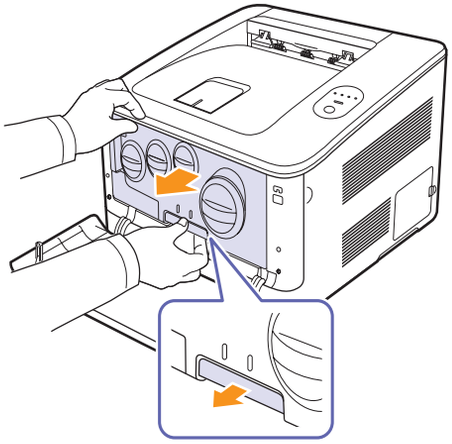
Cleaning the inside

1 Turn the machine off and unplug the power cord, then wait a few minutes for the machine to cool.

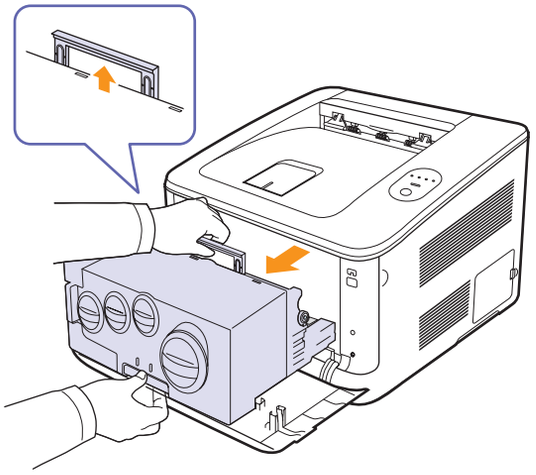
2 Open the front cover.



3 Pull the imaging unit out of the machine using the handle on its bottom.



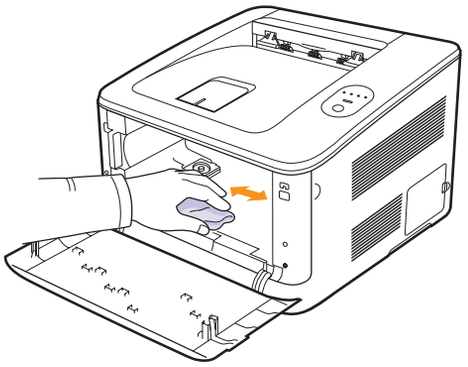
4 Extend the top handle on the imaging unit and then use it to pull the imaging unit out of the machine completely.



Caution

- Do not touch the green surface on the imaging unit with your hands or any other material. Use the handle on it in order to avoid touching this area.
- Be careful not to scratch the surface of the imaging unit.
- To prevent damage, do not expose the imaging unit to light for more than a few minutes. Cover it with a piece of paper to protect it if necessary.

5 Look inside the machine. Remove any dust, paper particles, and spilled toner with a damp, soft lint-free cloth.



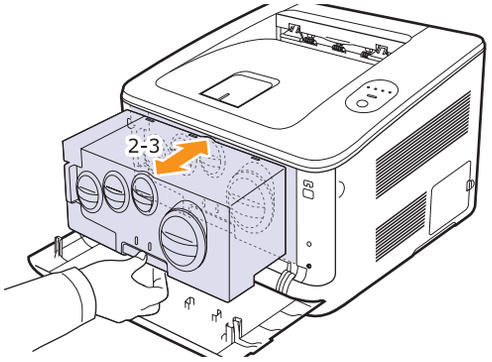
Note

After cleaning, let the machine to dry completely.

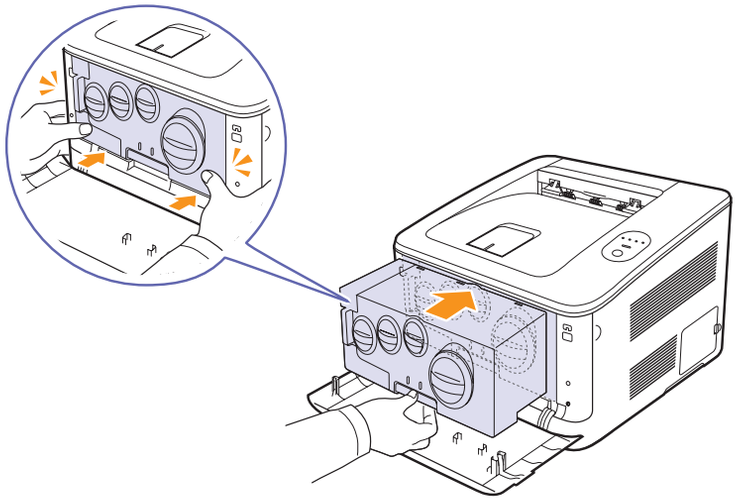
Caution

If your machine or its surrounding is contaminated with toner, we recommend you to use a cloth or tissue dampened with water to clean it. If you use a vacum cleaner, toner blows into the air then might be harmful to you.

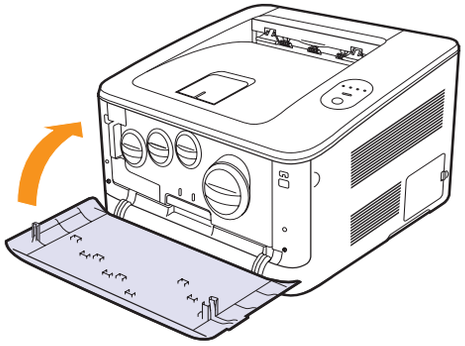
6 Pull the imaging unit about half and push it until it sounds 'click'. Repeat this action two or three times.



7 Push the imaging unit until it sounds 'click' in to the machine.



8 Close the front cover firmly.



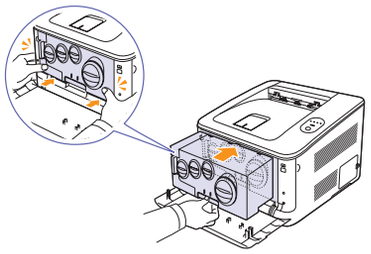
Caution

If the front cover is not completely closed, the macnine will not operate. Please make sure all toner cartridges are installed properly. If any toner cartridge is installed improperly, the front cover do not close.

9 Plug the power cord in and turn the machine on.

Caution

If there is a cracking sound, re-install the imaging unit. The imaging unit is not properly installed.



Maintaining the cartridge

Toner cartridge storage

To get the most from the toner cartridge, keep the following guidelines in mind:

- Do not remove the toner cartridge from its package until ready for use.
- Do not refill the toner cartridge. **The machine warranty does not cover damage caused by using a refilled cartridge.**
- Store toner cartridges in the same environment as your machine.
- To prevent damage to the toner cartridge, do not expose it to light for more than a few minutes.

Expected cartridge life

The life of a toner cartridge depends on the amount of toner that your print jobs require. When printing text at 5% coverage, the toner cartridges last an average of 4,000 pages for black and white printing and 2,000 pages for each color printing. However, the print cartridge that is shipped with the printer prints 3,000 pages for black and white,1,500 pages for colors.

Redistributing toner

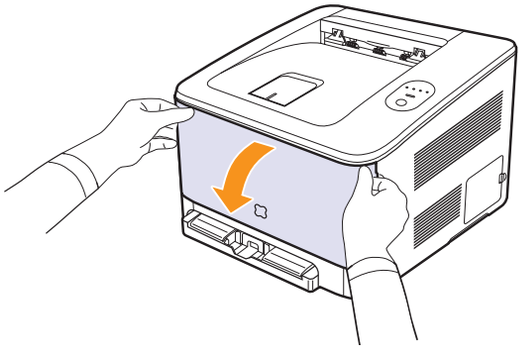
When a print cartridge is low on toner, faded or light areas may appear. It is also possible that colored images may be printed with incorrect colors due to flawed mixing of toner colors when one of the colored print cartridges is low on toner. The Smart Panel program window appears on the computer telling you which color cartridge is low on toner. Also, when the toner LED, on the control panel, indicating each individual print cartridge according to its color, blinks, the print cartridge is low.

The machine is able to continue to print using the current toner cartridge until the Smart Panel program window appears on the computer telling you to replace the cartridge.

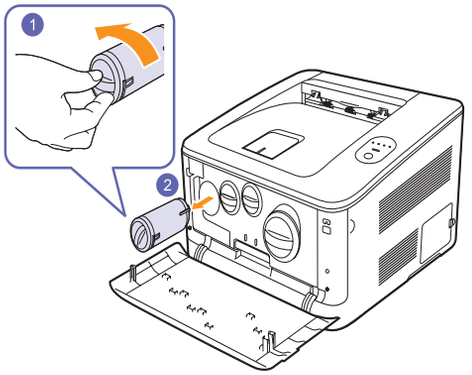
You may be able to temporarily improve print quality by redistributing the toner.

To redistribute the toner:

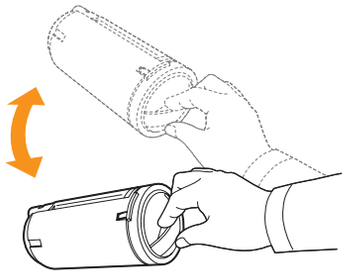
1 Open the front cover.



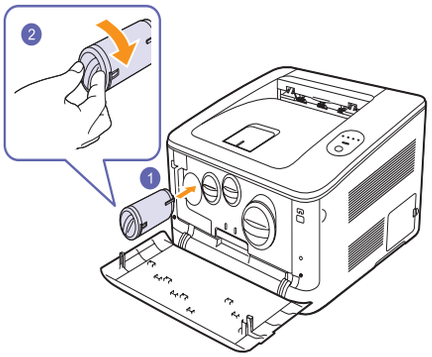
2 Holding the corresponding toner cartridge's handle, rotate it counter-clockwise, and pull it out to remove from the machine.



3 Holding the toner cartridge, shake thoroughly it from side to side to redistribute the toner.

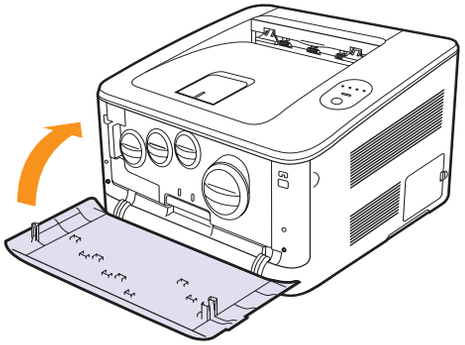


4 Grasp the toner cartridge and align it with the corresponding slot inside the machine. Insert it back into its slot until it clicks into place, and rotate the toner cartridge clockwise.



Note
If toner gets on your clothing, wipe it off with a dry cloth and wash it in cold water. Hot water sets toner into fabric.

5 Close the front cover. Make sure that the cover is securely closed.



Replacing the toner cartridge

The machine uses four colors and has a different toner cartridge for each one: yellow (Y), magenta (M), cyan (C), and black (K).

When the toner colors LED, on the control panel, indicating each individual toner cartridge according to its color, lights, and the **Status** LED lights red, the machine cartridge is totally exhausted. Your machine stops printing.

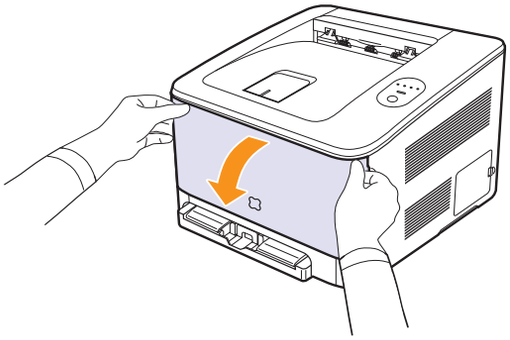
Also, the Smart Panel program window appears on the computer telling you to replace the cartridge.

At this stage, the toner cartridge needs to be replaced. Check the type of toner cartridge for your machine. (See "Supplies" on page 8.1.)

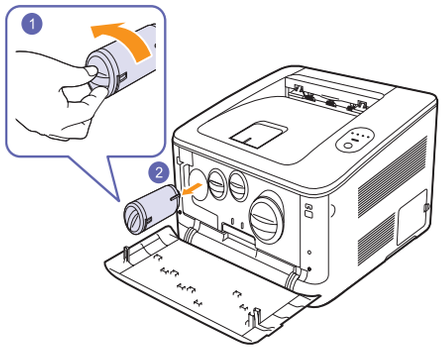
Note
The print quality may get poor if the refilled toner cartridge is installed, since its characteristics may significantly differ from the genuine.

1 Turn the machine off, then wait a few minutes for the machine to cool.

2 Open the front cover.

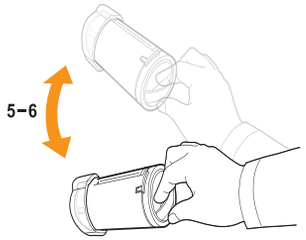


3 Holding the corresponding toner cartridge's handle, rotate it counter-clockwise, and pull it out to remove from the machine.

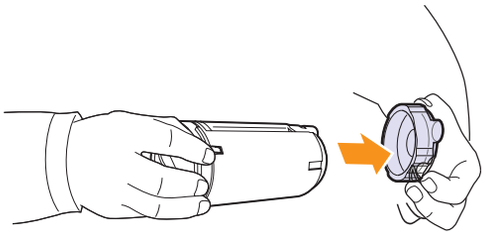


4 Take a new toner cartridge out of its package.

5 Holding the toner cartridge, shake thoroughly it from side to side to distribute the toner.



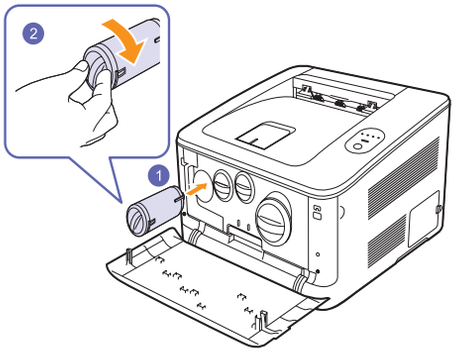
6 Remove the cartridge cap.



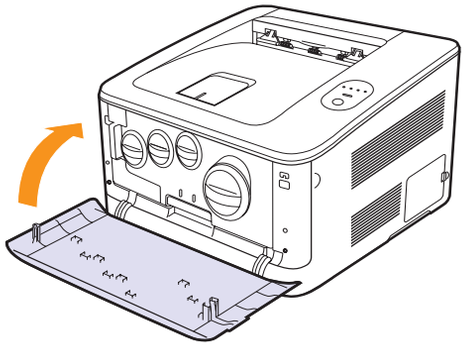
Note

If toner gets on your clothing, wipe it off with a dry cloth and wash it in cold water. Hot water sets toner into fabric.

7 Grasp the toner cartridge and align it with the corresponding slot inside the machine. Insert it back into its slot until it clicks into place, and rotate the toner cartridge clockwise.



8 Close the front cover. Make sure that the cover is securely latched, and then turn the machine on.



Caution

If the front cover is not completely closed, the macnine will not operate. Please make sure all toner cartridges are installed properly. If any toner cartridge is installed improperly, the front cover do not close.

Note

- Each LED blinks red in a repeated order. Wait for about 1.5 minutes for your machine to get ready.
- When printing text at 5% coverage, you can expect a print cartridge life of about 4,000 pages for black and white printing and 2,000 pages for color printing. However, the print cartridge that is shipped with the printer prints 3,000 pages for black and white, 1,500 pages for colors.

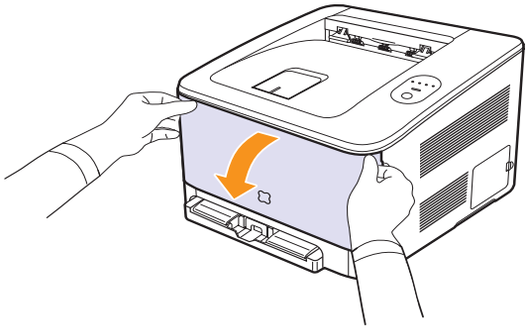
Replacing the Imaging Unit

The life of the imaging unit is approximately 20,000 pages for black or 46,000 images for printing. When the life span of the imaging unit has expired, the Smart Panel program window appears on the computer, indicating the imaging unit needs to be replaced. Otherwise your machine stops printing.

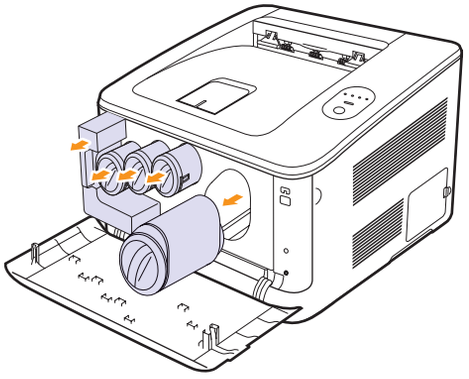
To replace the imaging unit:

1 Turn the machine off, then wait a few minutes for the machine to cool.

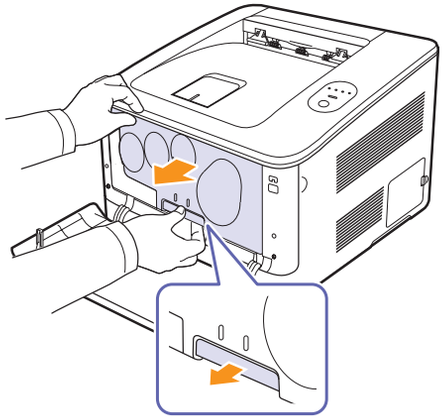
2 Open the front cover.



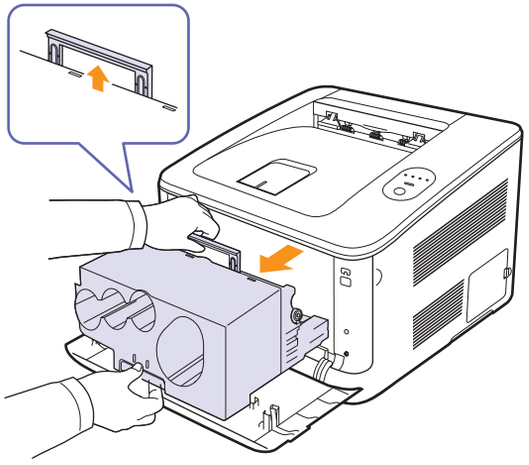
3 Rotate all toner cartridges counter-clockwise and pull them out. Remove waste toner container from the machine.



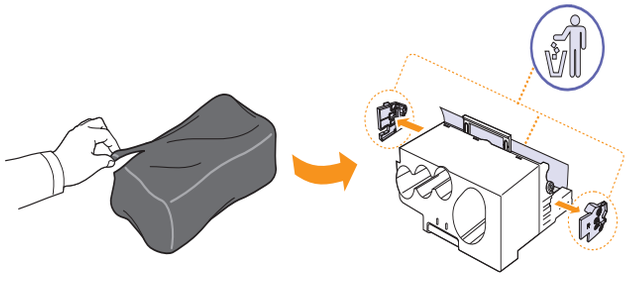
4 Pull the imaging unit out of the machine using the handle on its bottom.



5 Extend the top handle on the imaging unit and then use it to pull the imaging unit out of the machine completely.



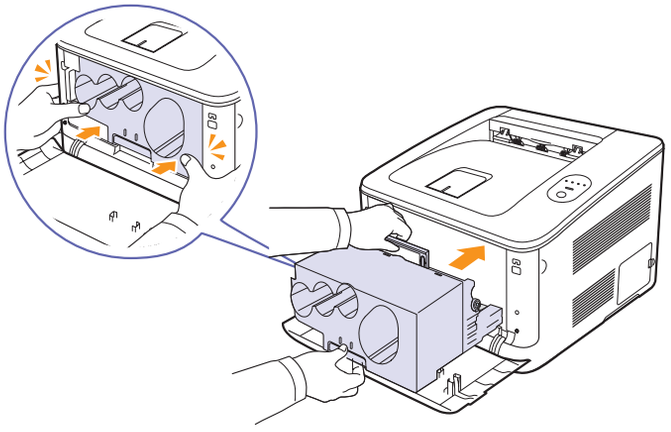
6 Take a new imaging unit out of its package. Remove the protective devices on both sides of the imaging unit and the paper protecting the surface of the imaging unit.



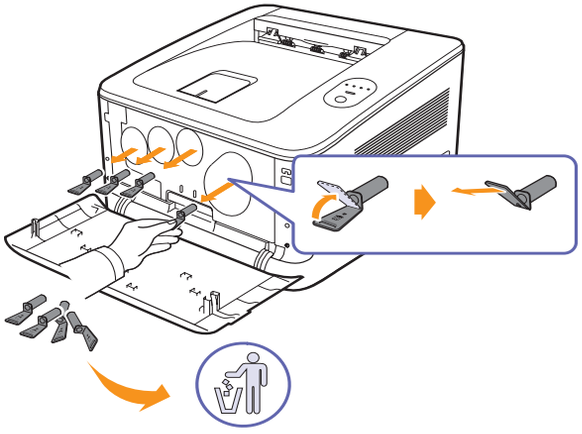
Caution

- Don't use sharp objects, such as a knife or scissors, to open the imaging unit package. You could damage the surface of the imaging unit.
- Be careful not to scratch the surface of the imaging unit.
- To prevent damage, do not expose the imaging unit to light for more than a few minutes. Cover it with a piece of paper to protect it if necessary.

7 Holding the handles on the new imaging unit, push the imaging unit until it sounds 'click' in to the machine.



8 Remove four dummy caps which are on the toner cartridge entrances of the imaging unit. When you remove the dummy cap from the cartridge, lift the handle up and pull it out.



Caution

If you force too much to the dummy caps, it may cause problem.

9 Insert the toner cartridges and waste toner container back into their corresponding slots until they click into place. And rotate the toner cartridges clockwise.

10 Close the front cover firmly.

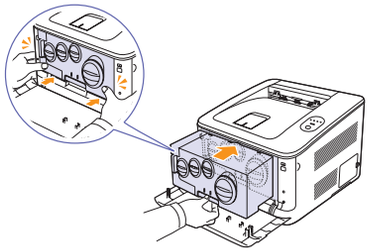
Caution

If the front cover is not completely closed, the machine will not operate. Please make sure all toner cartridges are installed properly. If any toner cartridge is installed improperly, the front cover do not close.

11 Turn the machine on.

Caution

If there is a cracking sound, re-install the imaging unit. The imaging unit is not properly installed.



Note

Each LED blinks red in a repeated order. Wait for about 1.5 minutes for your machine to get ready.

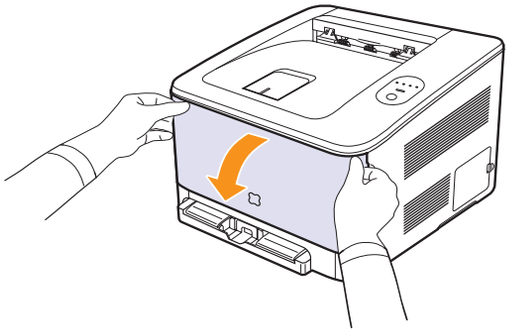
Replacing the Waste Toner Container

The life of the waste toner container unit is approximately 1,250 pages for full color 5% image or 5,000 image for black. When the life span of the waste toner container has expired, the Smart Panel program window appears on the computer, indicating the waste toner container needs to be replaced. Otherwise your machine stops printing.

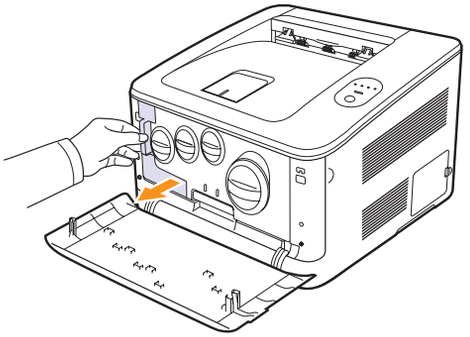
To replace the waste toner container:

1 Turn the machine off, then wait a few minutes for the machine to cool.

2 Open the front cover.



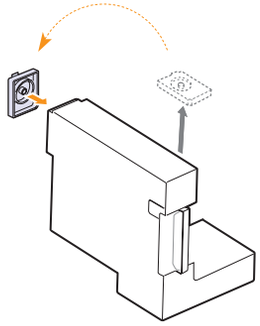
3 Pull the waste toner container out of the machine using its handle.



Note

Make sure that you lay the waste toner container on a flat surface so that the toner does not spill.

4 Remove the container's cap from the container as shown below, and use it to close the waste toner container opening.

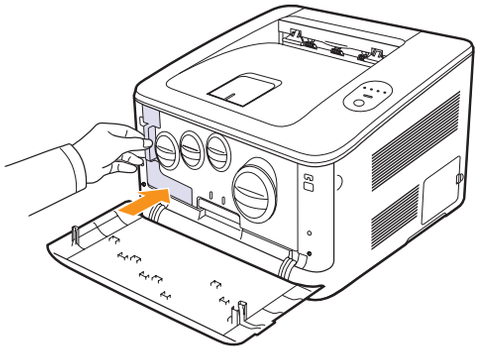


Caution

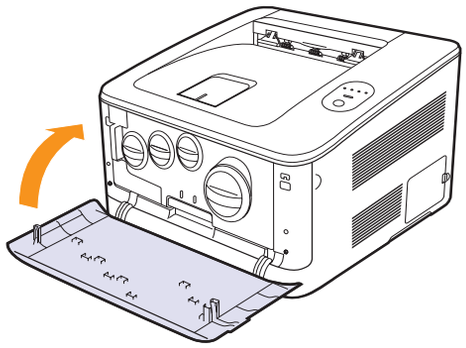
Do not tilt or turn over the container.

5 Take a new waste toner container out of its package.

6 Insert the new container into position and then push it to make sure that it is firmly seated in place.



7 Close the front cover firmly.



Caution

If the front cover is not completely closed, the machine will not operate. Please make sure all toner cartridges are installed properly. If any toner cartridge is installed improperly, the front cover do not close.

8 Turn the machine on.

Maintenance Parts

To avoid print quality and paper feed problems resulting from worn parts, and to maintain your machine in top working condition, the following items will need to be replaced after the specified number of pages, or when the life span of each item has expired.

Items	Yield (Average)
Pick-up roller	Approx. 50,000 pages
Fuser unit	Approx. 80,000 black pages or 40,000 color pages
Transfer roller	Approx. 100,000 pages
Transfer belt (ITB)	Approx. 100,000 images

We highly recommend that this maintenance be performed by an authorized service provider, dealer or the retailer where you bought the machine. The warranty does not cover the replacement of the maintenance parts after their lifespan.

Managing your machine from the website

If you have connected your machine to a network and set up TCP/IP network parameters correctly, you can manage the machine via Samsung's **SyncThru™ Web Service**, an embedded web server. Use **SyncThru™ Web Service** to:

- View the device information and check its current status.
- Change TCP/IP parameters and set up other network parameters.
- Change the printer properties.
- Set the machine to send email notifications and update you on the machine's status.
- Get support for using the machine.

To access **SyncThru™ Web Service**:

1 Start a web browser, such as Internet Explorer, from Windows.

2 Enter the machine IP address (http://xxx.xxx.xxx.xxx) in the address field and press the **Enter** key or click **Go**.

Your machine's embedded website opens.

7 Troubleshooting

This chapter gives helpful information on what to do if you encounter a problem.

This chapter includes:**Machine Setup**

- **Tips for avoiding paper jams**
- **Clearing paper jams**
- **Solving other problems**

Tips for avoiding paper jams

By selecting the correct media types, most paper jams can be avoided. When a paper jam occurs, follow the steps outlined on page 7.1.

- Follow the procedures on page 4.4. Ensure that the adjustable guides are positioned correctly.
- Do not overload the tray.
- Do not remove paper from the tray while your machine is printing.
- Flex, fan, and straighten paper before loading.
- Do not use creased, damp, or highly curled paper.
- Do not mix paper types in a tray.
- Use only recommended print media. (See "Specifications on print media" on page 4.2.)
- Ensure that the recommended side of the print media is facing up in the tray.

Clearing paper jams

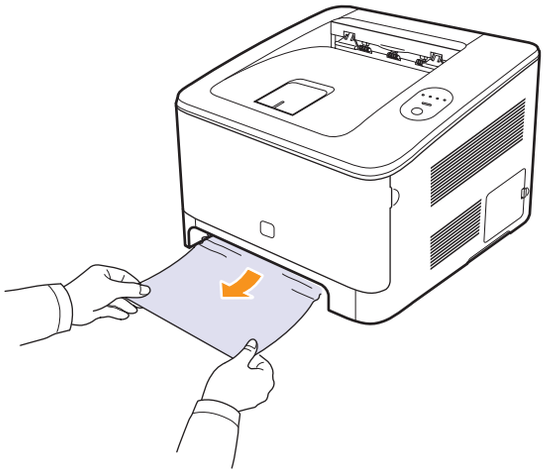
Note
When removing paper that is jammed in the printer, if possible always pull the paper in the direction that it normally moves so as not to damage internal components. Always pull firmly and evenly; do not jerk the paper. If the paper tears, ensure that all fragments of paper are removed; otherwise a jam will occur again.

If a paper jam occurs, the **Status** LED on the control panel lights red. Find and remove the jammed paper.

To resume printing after clearing paper jams, you must open and close the front cover or rear cover.

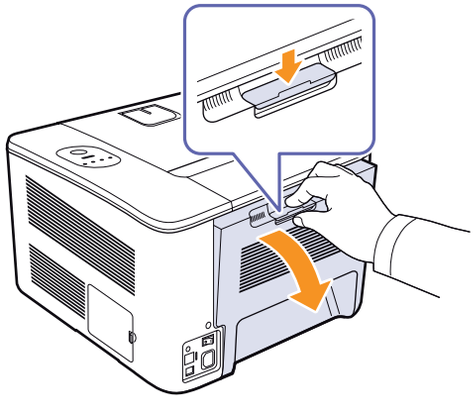
In the tray 1

1 Pull the tray out of the printer and remove the jammed paper.

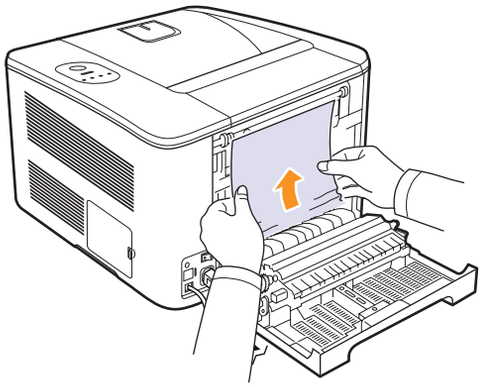


If you cannot find the jammed paper, go to the next step.

2 To remove the jammed paper, open the rear cover.



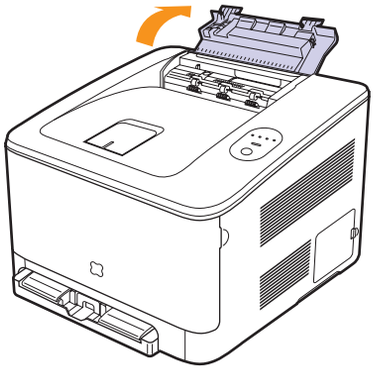
3 Carefully remove the paper by pulling in the direction as shown below. Most of the jammed paper can be removed in this step.



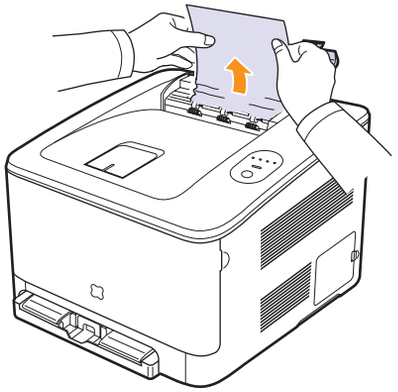
If you cannot find the jammed paper, or if there is any resistance removing the paper, stop pulling and go to the next step.

Note
If the paper tears, make sure that all of the paper fragments are removed from the printer.

4 Close the rear cover and then open the top cover.

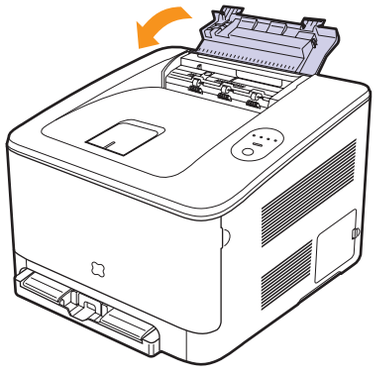


5 Holding the inner cover open, carefully take the jammed paper out of the printer. Be cautious of the paper exit area as it can be hot. The inner cover will then close automatically.



Caution
Do not touch the fuser inside the inner cover. It is hot and could cause burns! The fuser's operating temperature is 180 °C (356 °F). Take care when removing paper from the printer.

6 Close the top cover. Make sure that it is securely closed.

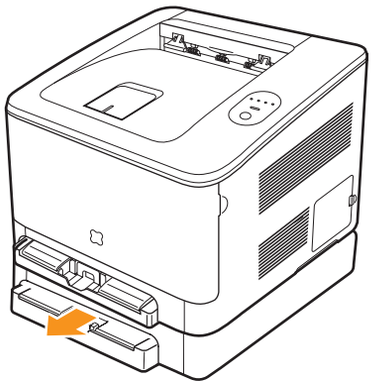


7 Open and then close the rear cover or front cover to resume printing.

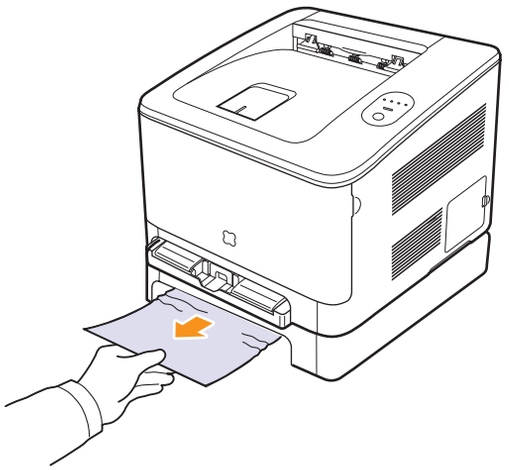
In the optional tray

If paper is jammed in the optional Tray, follow the next steps to release the jammed paper.

1 Pull the optional tray out of the machine.



2 Remove the jammed paper from the machine.

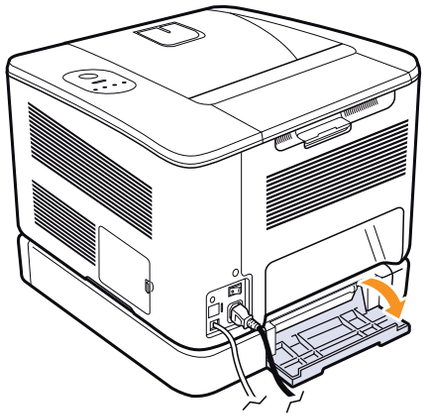


3 Insert the optional tray into the machine until it snaps into place.

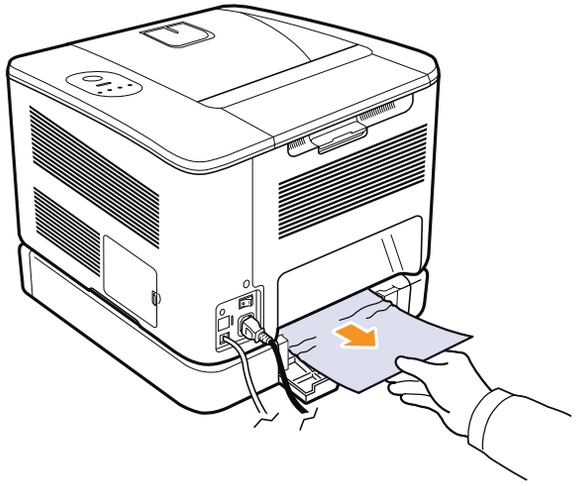
4 Open and then close the rear cover or front cover to resume printing.

If the paper does not move when you pull, or if you do not see the paper in this area, go to the next step.

5 Open the jam cover in the optional tray.



6 Pull the jammed paper out in the direction shown.



7 Close the jam cover. Printing automatically resumes.

Solving other problems

The following chart lists some conditions that may occur and the recommended solutions. Follow the suggested solutions until the problem is corrected. If the problem persists, please call for service.

Paper feeding problems

Condition	Suggested solutions
Paper is jammed during printing.	Clear the paper jam. (See "Clearing paper jams" on page 7.1.)
Paper sticks together.	• Ensure that there is not too much paper in the tray. The tray can hold up to 150 sheets of paper, depending on the thickness of the paper. • Make sure that you are using the correct type of paper. (See "Specifications on print media" on page 4.2.) • Remove paper from the tray and flex or fan the paper. • Humid conditions may cause some paper to stick together.
Multiple sheets of paper do not feed.	• Different types of paper may be stacked in the tray. Load paper of only one type, size, and weight. • If multiple sheets have caused a paper jam, clear the paper jam. (See "Clearing paper jams" on page 7.1.)
Paper does not feed into the machine.	• Paper has not been loaded correctly. Remove paper from the tray and reload it correctly. Check that the paper guides are set correctly. • There is too much paper in the tray. Remove excess paper from the tray. • The paper is too thick. Use only paper that meets the specifications required by the machine. (See "Specifications on print media" on page 4.2.) • Remove any obstructions from inside the machine.
The paper keeps jamming.	• There is too much paper in the tray. Remove excess paper from the tray. Check that the paper guides are set correctly. • An incorrect type of paper is being used. Use only paper that meets the specifications required by the machine. (See "Specifications on print media" on page 4.2.) • There may be debris inside the machine. Open the front cover, remove the imaging unit and then remove the debris.

Printing problems

Condition	Possible cause	Suggested solutions
The machine does not print.	The machine is not receiving power.	Check the power cord connections. Check the power switch and the power source.
	The machine is not selected as the default printer.	Select a machine name as your default printer in your Windows.
	Check the machine for the following: • The cover is not closed. Close the cover. • Paper is jammed. Clear the paper jam. (See "Clearing paper jams" on page 7.1.) • No paper is loaded. Load paper. (See "Loading paper" on page 4.4.) • The toner cartridge is not installed. Install the toner cartridge. If a system error occurs, contact your service representative.	
	The connection cable between the computer and the machine is not connected properly.	Disconnect the printer cable and reconnect it.
	The printer may be in manual feed mode and out of paper.	Check the message on the Smart Panel program window, add paper to the tray and press the **Stop** button on the control panel.
	The connection cable between the computer and the machine is defective.	If possible, attach the cable to another computer that is working properly and print a job. You can also try using a different printer cable.
	The port setting is incorrect.	Check the Windows printer setting to make sure that the print job is sent to the correct port. If the computer has more than one port, make sure that the machine is attached to the correct one.
	The machine may be configured incorrectly.	Check the printer properties to ensure that all of the print settings are correct.

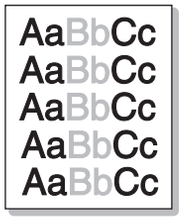
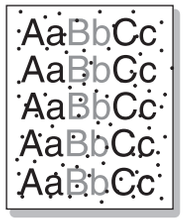
Condition	Possible cause	Suggested solutions
The machine does not print. (continued)	The printer driver may be incorrectly installed.	Repair the printer software. See Software section.
	The machine is malfunctioning.	Check the display message on the control panel to see if the machine is indicating a system error. Contact a service representative.
	The document size is so big that the hard disk space of the computer is not enough to access the print job.	Get more hard disk space and print the document again.
The machine selects print materials from the wrong paper source.	The paper option that was selected in the machine properties may be incorrect.	For many software applications, the paper source selection is found under the **Paper** tab within the printer properties. Select the correct paper source. See the printer driver help screen.
A print job is extremely slow.	The job may be very complex.	Reduce the complexity of the page or try adjusting the print quality settings such as adjusting the resolution.
	You may have printed a high density document which consumes a lot of toner.	It usually takes more time than usual to print this kind of job. Be patient and wait.
Half the page is blank.	The page orientation setting may be incorrect.	Change the page orientation in your application. See the printer driver help screen.
	The paper size and the paper size settings do not match.	Ensure that the paper size in the printer driver settings matches the paper in the tray. Or, ensure that the paper size in the printer driver settings matches the paper selection in the software application settings you use.

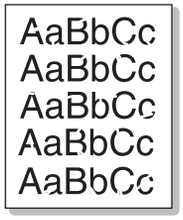
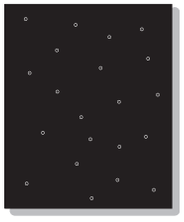
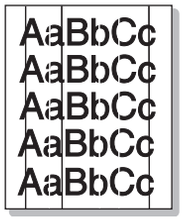
Condition	Possible cause	Suggested solutions
The machine prints, but the text is wrong, garbled, or incomplete.	The printer cable is loose or defective.	Disconnect the printer cable and reconnect. Try a print job that you have already printed successfully. If possible, attach the cable and the machine to another computer and try a print job that you know works. Finally, try a new printer cable.
	The wrong printer driver was selected.	Check the application's printer selection menu to ensure that your machine is selected.
	The software application is malfunctioning.	Try printing a job from another application.
	The operating system is malfunctioning.	Exit Windows and reboot the computer. Turn the machine off and then back on again.
Pages print, but they are blank.	The toner cartridge is defective or out of toner.	Redistribute the toner, if necessary. If necessary, replace the toner cartridge.
	The file may have blank pages.	Check the file to ensure that it does not contain blank pages.
	Some parts, such as the controller or the board, may be defective.	Contact a service representative.
PDF file does not print correctly- some parts are missing in the graphics, text or illustrations.	Incompatibility between the PDF file and the Acrobat products.	Printing the PDF file as an image may enable the file to print. Turn on **Print As Image** from the Acrobat printing options. **Note:** It will take longer to print when you print a PDF file as an image.
The print quality of photos is not good. Images are not clear.	The resolution is set to **Normal** or **Draft**.	Change the resolution to **Best** in the machine properties window and then try printing again.
	The resolution of the photo is very low.	Reduce the photo size. If you increase the photo size in the software application, the resolution will be reduced.

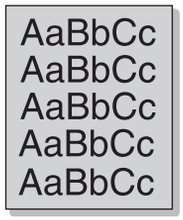
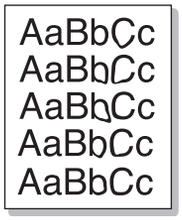
Condition	Possible cause	Suggested solutions
Your machine has an odd smell during initial use.	The oil used to protect the fuser is evaporating.	After printing about 100 color pages, there will be no more smell. It is a temporary issue.

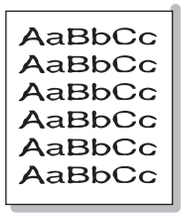
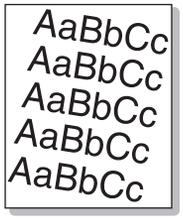
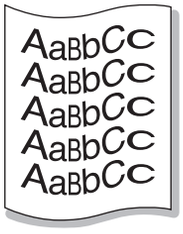
Printing quality problems

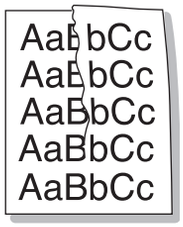
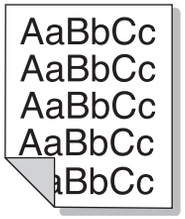
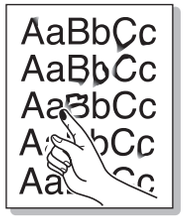
If the inside of the machine is dirty or paper has been loaded improperly, you may notice a reduction in print quality. See the table below to clear the problem.

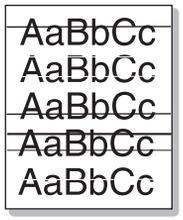
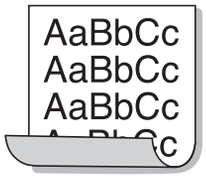
Condition	Suggested solutions
Light or faded print  	If a vertical white streak or faded area appears on the page: • The toner supply is low. You may be able to temporarily extend the toner cartridge life. If this does not improve the print quality, install a new toner cartridge. • The paper may not meet paper specifications; for example, the paper may be too moist or rough. (See "Specifications on print media" on page 4.2.) • If the entire page is light, the print resolution setting is too low or the toner save mode is on. Adjust the print resolution and turn the toner save mode off. See the help screen of the printer driver and refer to Software section, respectively. • A combination of faded or smeared defects may indicate that the toner cartridge needs cleaning. Contact a service representative. • The surface of the LSU part inside the machine may be dirty. Clean the LSU, contact a service representative.
Toner specks  	• The paper may not meet specifications; for example, the paper may be too moist or rough. (See "Specifications on print media" on page 4.2.) • The paper transfer belt may be dirty. Clean the inside of your machine. Contact a service representative. • The paper path may need cleaning. Contact a service representative.

Condition	Suggested solutions
Dropouts  	If faded areas, generally rounded, or broken texts or lines occur randomly on the page: • A single sheet of paper may be defective. Try reprinting the job. • The moisture content of the paper is uneven or the paper has moist spots on its surface. Try a different brand of paper. (See "Specifications on print media" on page 4.2.) • The paper lot is bad. The manufacturing processes can cause some areas to reject toner. Try a different kind or brand of paper. • Change the printer option and try again. Go to printer properties, click **Paper** tab, and set paper type to **Thick**. Refer to the **Software Section** for details. • Increase the level of the contrast of each color. To adjust the color contrast, click **Start** > **Programs** or **All Programs** > your printer driver name > **Smart Panel** and select **Printer Setting** > **Graphic** > **Color** and then click the **Color Adjustment** button. After **Manual Color Adjustment** window opens, move the scroll bar to the right direction. When finished, click **Apply** and then exit **Smart Panel**. • If these steps do not correct the problem, contact a service representative.
White Spots 	White spots appear on the page: • The paper is too rough and a lot of dirt from the paper falls to the inner devices within the machine, which means the transfer belt may be dirty. Clean the inside of your machine. Contact a service representative. • The paper path may need cleaning. Contact a service representative.
Vertical lines  	If black vertical streaks appear on the page: • The toner cartridge has probably been scratched. Remove the toner cartridge and install a new one. If white vertical streaks appear on the page: • Clean the inside of the machine. Contact a service representative to clean the inside of the machine.

Condition	Suggested solutions
Color or Black background 	If the amount of background shading becomes unacceptable: • Change to a lighter weight paper. (See "Specifications on print media" on page 4.2.) • Check the environmental conditions: very dry conditions (low humidity) or a high level of humidity (higher than 80% RH) can increase the amount of background shading. • Remove the old toner cartridge, and then install a new one. (See "Replacing the toner cartridge" on page 6.4.)
Toner smear 	• Clean the inside of the machine. Contact a service representative to clean the inside of the machine. • Check the paper type and quality. (See "Specifications on print media" on page 4.2.) • Remove the paper transfer belt, and then install a new one. (See "Replacing the toner cartridge" on page 6.4.)
Vertical repetitive defects 	If marks repeatedly appear on the printed side of the page at even intervals: • Clean the inside of the machine. Contact a service representative to clean the inside of the machine. After cleaning the inside of the machine, if you still have the same problems, install a new toner cartridge of the problem color. See "Replacing the toner cartridge" on page 6.4. • Parts of the machine may have toner on them. If the defects occur on the back of the page, the problem will likely correct itself after a few more pages. • The fusing assembly may be damaged. Contact a service representative.

Condition	Suggested solutions
Background scatter 	Background scatter results from bits of toner randomly distributed on the printed page. • The paper may be too damp. Try printing with a different batch of paper. Do not open packages of paper until necessary so that the paper does not absorb too much moisture. • If background scatter occurs on an envelope, change the printing layout to avoid printing over areas that have overlapping seams on the reverse side. Printing on seams can cause problems. • If background scatter covers the entire surface area of a printed page, adjust the print resolution through your software application or in printer properties.
Misformed characters 	• If characters are improperly formed and producing hollow images, the paper stock may be too slick. Try different paper. (See "Specifications on print media" on page 4.2.) • If characters are improperly formed and producing a wavy effect, the scanner unit may need service. Contact a service representative.
Page skew 	• Ensure that the paper is loaded properly. • Check the paper type and quality. (See "Specifications on print media" on page 4.2.) • Ensure that the paper or other material is loaded correctly and the guides are not too tight or too loose against the paper stack.
Curl or wave 	• Ensure that the paper is loaded properly. • Check the paper type and quality. Both high temperature and humidity can cause paper curl. (See "Specifications on print media" on page 4.2.) • Turn the stack of paper over in the tray. Also try rotating the paper 180° in the tray.

Condition	Suggested solutions
Wrinkles or creases 	• Ensure that the paper is loaded properly. • Check the paper type and quality. (See "Specifications on print media" on page 4.2.) • Turn the stack of paper over in the tray. Also try rotating the paper 180° in the tray.
Back of printouts are dirty 	Check for leaking toner. Clean the inside of the machine. Contact a service representative.
Black pages 	• The toner cartridge may not be installed properly. Remove the cartridge and reinsert it. • The toner cartridge may be defective and need replacing. Remove the toner cartridge and install a new one. (See "Replacing the toner cartridge" on page 6.4.) • The machine may require repair. Contact a service representative.
Loose toner 	• Clean the inside of the machine. Contact a service representative to clean the inside of the machine. After cleaning the inside of the machine, if you still have the same problems, contact a service representative. • Check the paper type and quality. (See "Specifications on print media" on page 4.2.) • Remove the toner cartridge, and then install a new one. (See "Replacing the toner cartridge" on page 6.4.) • If the problem persists, the machine may require repair. Contact a service representative.

Condition	Suggested solutions
Character Voids 	Character voids are white areas within parts of characters that should be solid black: • You may be printing on the wrong surface of the paper. Remove the paper and turn it around. • The paper may not meet paper specifications. (See "Specifications on print media" on page 4.2.)
Horizontal stripes 	If horizontally aligned black streaks or smears appear: • The toner cartridge may be installed improperly. Remove the cartridge and reinsert it. • The toner cartridge may be defective. Remove the toner cartridge and install a new one. (See "Replacing the toner cartridge" on page 6.4.) • If the problem persists, the machine may require repair. Contact a service representative.
Curl 	If the printed paper is curled or paper does not feed into the machine: • Turn the stack of paper over in the tray. Also try rotating the paper 180° in the tray. • Change the printer option and try again. Go to printer properties, click **Paper** tab, and set paper type to **Thin**. Refer to the **Software Section** for details.
An unknown image repetitively appears on the next few sheets or loose toner, light print, or contamination occurs.	You machine is probably being used at an altitude of 1,000 m (3,281 ft) or above. The high altitude may affect the print quality from loose toner or light imaging. You can set this option through Printer Settings Utility or the **Printer** Tab in printer driver's properties. See "Altitude adjustment" on page 3.4.

Common Windows problems

Condition	Suggested solutions
"File in Use" message appears during installation.	Exit all software applications. Remove all software from the StartUp Group, then restart Windows. Reinstall the printer driver.
"Error Writing to LPTx" message appears.	• Ensure that the cables are connected correctly and the machine is on. • If bi-directional communication is not turned on in the driver, it will also cause this message.

Condition	Suggested solutions
“General Protection Fault”, “Exception OE”, “Spool32”, or “Illegal Operation” messages appear.	Close all other applications, reboot Windows and try printing again.
“Fail To Print”, “A machine timeout error occurred.” messages appear.	These messages may appear during printing. Just keep waiting until the machine finishes printing. If the message appears in standby mode or after printing has been completed, check the connection and/or whether an error has occurred.

Note
Refer to Microsoft Windows 2000/XP/2003/Vista User’s Guide that came with your PC for further information on Windows error messages.

Common PostScript problems

The following situations are PS language specific and may occur when several printer languages are being used.

Note
To receive a printed or screen-displayed message when PostScript errors occur, open the Print Options window and click the desired selection next to the PostScript errors section.

Problem	Possible Cause	Solution
PostScript file cannot be printed.	The PostScript driver may not be installed correctly.	• Install the PostScript driver, referring to Software section. • Print a configuration page and verify that the PS version is available for printing. • If the problem persists, contact a service representative.
“Limit Check Error” message appears.	The print job was too complex.	You might need to reduce the complexity of the page or install more memory.
A PostScript error page prints.	The print job may not be PostScript.	Make sure that the print job is a PostScript job. Check to see whether the software application expected a setup or PostScript header file to be sent to the machine.
The optional tray is not selected in the driver.	The printer driver has not been configured to recognize the optional tray.	Open the PostScript driver properties, select the **Device Settings** tab, and set the **Tray** option of the **Installable Options** section to **Installed**.
When printing a document in Macintosh with Acrobat Reader 6.0 or higher, colors print incorrectly.	The resolution setting in the printer driver may not be matched with the one in Acrobat Reader.	Make sure that the resolution setting in your printer driver matches the one in Acrobat Reader.

Common Linux problems

Problem	Possible Cause and Solution
The printer does not print.	• Check if the printer driver is installed in your system. Open Unified Driver Configurator and switch to the Printers tab in Printers configuration window to look at the list of available printers. Make sure that your machine is displayed on the list. If not, please, invoke Add new printer wizard to set up your device. • Check if the printer is started. Open Printers configuration and select your machine on the printers list. Look at the description in the Selected printer pane. If its status contains “(stopped)” string, please, press the **Start** button. After that normal operation of the printer should be restored. The "stopped" status might be activated when some problems in printing occurred. • Check if your application has special print option such as “-oraw”. If “-oraw” is specified in the command line parameter then remove it to print properly. For Gimp front-end, select “print” -> “Setup printer” and edit command line parameter in the command item.

Problem	Possible Cause and Solution
Some color images come out all black.	This is a known bug in Ghostscript (until GNU Ghostscript version 7.05) when the base color space of the document is indexed color space and it is converted through CIE color space. Because Postscript uses CIE color space for Color Matching System, you should upgrade Ghostscript on your system to at least GNU Ghostscript version 7.06 or later. You can find recent Ghostscript versions at www.ghostscript.com.
Some color images come out in unexpected color.	This is a known bug in Ghostscript (until GNU Ghostscript version 7.xx) when the base color space of the document is indexed RGB color space and it is converted through CIE color space. Because Postscript uses CIE color space for Color Matching System, you should upgrade Ghostscript on your system to at least GNU Ghostscript version 8.xx or later. You can find recent Ghostscript versions at www.ghostscript.com.
The machine does not print whole pages and its output is half page printed.	It is a known problem that occurs when a color printer is used on version 8.51 or earlier of Ghostscript, 64-bit Linux OS, and reported to bugs.ghostscript.com as Ghostscript Bug 688252. The problem is solved in AFPL Ghostscript v. 8.52 or above. Download the latest version of AFPL Ghostscript from http://sourceforge.net/projects/ghostscript/ and install it to solve this problem.
I encounter error “Unable to open mfp port device file!” when printing a document.	Please avoid changing print job parameters (via LPR GUI, for example) while a print job is in progress. Known versions of CUPS server break the print job whenever print options are changed and then try to restart the job from the beginning. Since Unified Linux Driver locks mfp port while printing, the abrupt termination of the driver keeps the port locked and therefore unavailable for subsequent print jobs. If this situation occurred, please, try to release the mfp port.
When printing a document over the network in SuSE 9.2, the printer does not print.	The CUPS (Common Unix Printing System) version distributed with SuSE Linux 9.2 (cups-1.1.21) has a problem with ipp (Internet Printing Protocol) printing. Use the socket printing instead of ipp or install later version of CUPS (cups-1.1.22 or higher).

Common Macintosh problems

Problem	Suggested solutions
PDF file does not print correctly-some parts are missing in the graphics, text or illustrations.	Incompatibility between the PDF file and the Acrobat products. Printing the PDF file as an image may enable the file to print. Turn on **Print As Image** from the Acrobat printing options. **Note:** It will take longer to print when you print a PDF file as an image.
The document has printed, but the print job has not disappeared from the spooler in Mac OS 10.3.2.	Update your Mac OS to OS 10.3.3. or higher.
Some letters are not displayed normally during the cover page printing.	This problem is caused because the Mac OS cannot find the font during the cover page printing. English alphabet and numbers are displayed normally on the cover page.
Some fonts are not printed properly in the Adobe Illustrator program.	Those fonts may not supported by your machine. Start the Adobe Illustrator program, click **File** > **Print** > **Illustrator** tab. Then, check **Force Fonts to Download**, and try again.

8 Ordering supplies and accessories

This chapter provides information on purchasing cartridges and accessories available for your machine.

This chapter includes:

- **Supplies**
- **Accessories**
- **How to purchase**

Supplies

When the toner runs out, you can order the following type of toner cartridge for your machine:

Type	Average yield[a]	Part number
Toner cartridge[a]	Approx. 4,000 (Black), 2,000 (Color)	CLP-K350A (Black) CLP-C350A (Cyan) CLP-M350A (Magenta) CLP-Y350A (Yellow)
Imaging unit	Approx. 20,000 black pages or approx. 46,000 images	CLP-R350A
Waste toner container	Approx. 5,000 images[b] or Approx. 1,250 pages (fulll color 5% image)	CLP-W350A

a. Declared yield value in accordance with ISO/IEC 19798.

b. Image counts based on one color on each page. If you print documents in full color (Cyan, Magenta, Yellow, Black), the life of this item will be reduced by 25%.

Caution

When you purchase a new toner cartridge, you must purchase it in the same country you have purchased your machine. Otherwise, the toner cartridge will be incompatable with your machine since the configuration of the toner cartridge varies depending on the contries.

Accessories

You can purchase and install accessories to enhance your machine's performance and capacity.

Accessory	Description	Part number
Memory module	Extends your machine's memory capacity.	CLP-MEM301: 128 MB
Optional tray 2	If you are experiencing frequent paper supply problems, you can attach an additional 250 sheet tray.	CLP-S350A

How to purchase

To order Samsung-authorized supplies or accessories, contact your local Samsung dealer or the retailer where you purchased your machine, or visit www.samsungprinter.com and select your country/region to obtain information on calling for technical support.

9 Installing accessories

Your machine is a full-featured model that has been optimized to meet most of your printing needs. Recognizing that each user may have different requirements, however, Samsung makes several accessories available to enhance your machine's capabilities.

This chapter includes:

- **Precautions to take when installing accessories**
- **Installing a memory module**

Precautions to take when installing accessories

• Disconnect the power cord

Never remove the control board cover while the power is turned on.

To avoid the possibility of an electrical shock, always disconnect the power cord when installing or removing ANY internal or external accessories.

• Discharge static electricity

The control board and internal accessories (network interface card or memory module) are sensitive to static electricity. Before installing or removing any internal accessories, discharge static electricity from your body by touching something metal, such as the metal back plate on any device plugged into a grounded power source. If you walk around before finishing the installation, repeat this procedure to discharge any static electricity again.

Installing a memory module

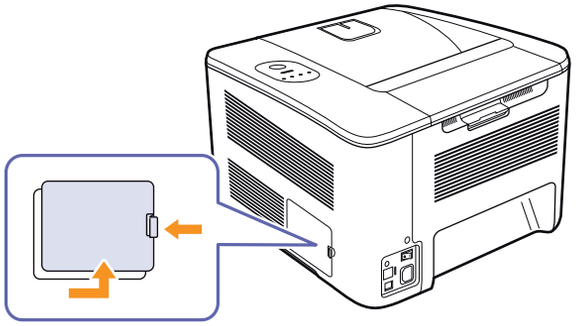
Your machine has a dual in-line memory module (DIMM). Use this memory module slot to install additional memory.

When you are expanding the memory capacity, you can add a memory module to the vacant memory slot. Your machine has 128 MB memory, and it can be expanded to 256 MB.

Order information is provided for optional memory module. (See "Accessories" on page 8.1.)

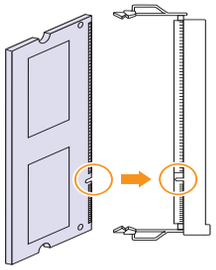
1 Turn the machine off and unplug all cables from the machine.

2 Open the control board cover.



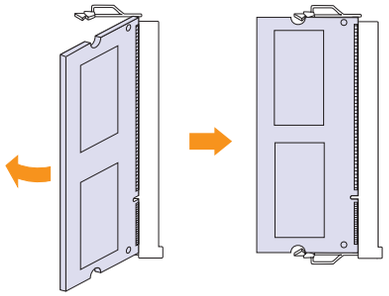
3 Take out a new memory module from the plastic bag.

4 Holding the memory module by the edges, align the memory module on the slot at about a 30-degree tilt. Make sure that the notches of the module and the grooves on the slot fit each other.



Note
The notches and grooves illustrated above may not match those on an actual memory module and its slot.

5 Press the memory module into the slot with care until you hear a 'click'.



Caution
Do not press the memory module strongly or the module may be damaged. If the module does not seem to fit into the slot properly, carefully try the previous procedure again.

6 Replace the control board cover.

7 Reconnect the power cord and printer cable, and turn the machine on.

Note
To release the memory module, pull the two tabs on the sides of the slot outwards, then the module springs out.

Activating the added memory in the PS printer properties

After installing the memory module, you need to select it in the printer properties of the PostScript printer driver in order to use it.

1 Make sure that the PostScript printer driver is installed on your computer. For details about installing the PS printer driver, see Software section.

2 Click the Windows **Start** menu.

3 For Windows 2000, select **Settings** and then **Printers**.

For Windows XP/2003, select **Printers and Faxes**.

For Windows Vista, select **Control Panel** → **Hardware and Sound** → **Printers**.

4 Select the **Samsung CLP-350 Series PS** printer.

5 Click the right mouse button on the printer icon and select **Properties**.

6 Select **Device Settings**.

7 Select the amount of memory you installed from **Printer Memory** in the **Installable Options** section.

8 Click **OK**.

10 Specifications

Note
The numbers herein is subject to change according to its install environment.

Item	Specifications and Description
Printing speed[a]	Black and white: Up to 19 ppm[b] in A4 (19 ppm in Letter) Color: Up to 5 ppm in A4(Letter)
Printing resolution	Max. 2,400 x 600 dpi effective output
Warm-up time	Less than 40 seconds (Coldboot)
First print out time	From ready Black and white: Less than 14 seconds Color: Less than 24 seconds
	From coldboot Black and white: Less than 50 seconds Color: Less than 60 seconds
Consumables life[c]	Average continuous black cartridge yield: 4,000[d] standard pages. (Shipped with 3,000 pages Starter print cartridge) Average continuous yellow/cyan/magenta cartridge yield: 2,000[d] standard pages. (Shipped with 1,500 pages Starter print cartridge)
	Imaging unit: Approx. 20,000 black pages or 46,000 images
	Waste toner container: Approx. 1,250 pages (full color 5% image) or 5,000 images
Noise level[e]	Printing mode Black and white: Less than 49 dBA Color: Less than 48 dBA Standby mode: Less than 35 dBA
Power rating	AC 110 - 120 V or AC 220 - 240 V See the Rating label on the machine for the correct voltage, frequency (hertz) and type of current for your machine.
Power consumption	• Average: 400 W • Power save mode: less than 10 W
External dimension (W x D x H)	390 x 420 x 270 mm (15.4 x 16.5 x 10.6 inches)
Weight	14.8 Kg (32.52 lbs) (including consumables)

Item	Specifications and Description	
Package weight	Paper	2.72 kg (5.99 lbs)
	Plastic	0.453 kg (1 lbs)
Operating environment	Temperature	10 to 32.5 °C (50 to 90 °F)
	Humidity	20 to 80% RH
Memory	128 MB (expandable up to 256 MB)	
Fonts	45 scalable, 1 bitmap and 136 PS	
Interface	USB 2.0 Ethernet 10/100 Base TX	
OS compatibility & driver	Windows 2000/ 2003/ XP/ Vista	SPL-C (Samsung Printer Language Color) driver, PCL6, PostScript driver
	Various Linux OS	PostScript driver
	Mac 10.3 ~ 10.4	PostScript driver
Printer language	SPL-C, PCL6, PostScript 3	
Option	250 sheet tray	
Duty cycle	Monthly: Up to 24,200 images	

a. Printing speed: it will be affected by operating system used, computing performance, application software, connecting method, media type, media size, and job complexity.
b. ppm: page per minute.
c. May be affected by operating environment, printing interval, media type, and media size.
d. Declared yield value in accordance with ISO/IEC 19798.
e. Noise Level: sound pressure level, ISO7779.

11 Glossary

BOOTP

It stands for Bootstrap Protocol, a network protocol used by a network client to obtain its IP address automatically. This is usually done in the bootstrap process of computers or operating systems running on them. The BOOTP servers assign the IP address from a pool of addresses to each client.

Control Panel

A control panel is a flat area where control or monitoring instruments are displayed. They are typically found in top or front of the machine.

Coverage

This is the printing term used for toner usage measurement on printing and generally used as 5% coverage. 5% coverage means that an A4 sided paper has about 5% image or text on it. So, if the paper or original has complicated images or lots of text on it, the coverage will be over 5% and at the same time, toner usage will be as much as the coverage.

Default

The first set values.

DHCP

A Dynamic Host Configuration Protocol (DHCP) is a client-server networking protocol. A DHCP server provides configuration parameters specific to the DHCP client host requesting, generally, information required by the client host to participate on an IP network.

DIMM

Dual Inline Memory Module, a small circuit board that holds memory. DIMM stores all the data within the machine like printing data, received fax data, or scanned data.

DNS

The Domain Name Server (DNS) is a system that stores information associated with domain names in a distributed database on networks.

DPI

This is the measurement of resolution which is used for printing or scanning. Generally, more dots per inch result in a higher resolution, more visible detail in the image, and a larger file size.

Duplex

This is a mechanism which automatically flips over a sheet of paper so that the machine can print (or scan) on both sides of the paper. A printer equipped with a Duplex can print double-sided.

Duty Cycle

Duty cycle is the page quantity which does not affect printer performance for a month. Generally the printer has the lifespan limitation such as pages per year. The lifespan means the average capacity of print-outs, usually within the warranty period. For example, if the duty cycle is 48,000 pages per month assuming 20 working days, a printer limits 2,400 pages a day, which is not small amount.

Ethernet

Ethernet is a frame-based computer networking technology for local area networks (LANs). It defines wiring and signaling for the physical layer, and frame formats and protocols for the media access control (MAC)/data link layer of the OSI model. It has become the most widespread LAN technology in use presently.

Fuser Unit

This is the part of a laser printer that melts the toner onto the print media. It consists of two hot rollers. After toner is transferred onto the paper, the fuser unit applies heat and pressure to ensure that the toner stays on the paper permanently, which is why paper is warm when it comes out of a laser printer.

Gateway

This is a connection between computer networks, or between a computer network and a telephone line. And it is very popular, as it is a computer or a network that allows access to another computer or network.

Grayscale

Shades of gray that represent light and dark portions of an image when color images are converted to grayscale; colors are represented by various shades of gray.

Halftone

This is an image type that simulates grayscale by varying the number of dots. Highly colored areas consist of a large number of dots, while lighter areas consist of a smaller number of dots.

Intranet

This is a private network that uses Internet Protocols, network connectivity, and possibly the public telecommunication system to securely share part of an organization's information or operations with its employees. Sometimes the term refers only to the most visible service, the internal website.

IP address

An Internet Protocol address (IP address) is a unique number that devices use in order to identify and communicate with each other on a network utilizing the Internet Protocol standard (IP).

IPM

The Images Per Minute.

ISO

The International Organization for Standardization (ISO) is an international standard-setting body composed of representatives from national standards bodies. It produces world-wide industrial and commercial standards.

LED

A light-emitting diode (LED) is a semiconductor device that indicates the status of a machine.

Print Media

Media such as papers, envelopes, labels, and transparencies which can be used on a printer, a scanner, a fax or, a copier.

OPC Drum

A mechanism that makes a virtual image for print using a laser beam emitted from a laser printer, and it is usually green or gray-colored and cylinder-shaped. An exposing unit of a drum is slowly worn away by its usage of the printer, and it should be replaced appropriately since it becomes scratched from grit in paper.

PDF

Portable Document Format (PDF) is a proprietary file format developed by Adobe Systems for representing two-dimensional documents in a device-independent and resolution-independent format.

PostScript

PostScript (PS) is a page description language and programming language used primarily in the electronic and desktop publishing areas, and that is run in an interpreter to generate an image.

PPM

Pages Per Minute. PPM shows the printer's speed, how many pages a printer can actually print per minute.

PRN file

An interface for a device driver, this allows software to interact with the device driver using standard input/output system calls, which simplifies many tasks.

Protocol

This is a convention or standard that controls or enables the connection, communication, and data transfer between two computing endpoints.

PS

See PostScript.

Resolution

The sharpness of an image, measured in dots per inch (dpi). The higher the dpi, the greater the resolution.

Subnet Mask

A bitmask used to tell how many bits in an octet(s) identify the subnetwork, and how many bits provide room for host addresses.

TCP/IP

The Transmission Control Protocol (TCP) and the Internet Protocol (IP). It is the set of communications protocols that implement the protocol stack on which the Internet and most commercial networks run.

toner cartridge

It is a kind of bottle within a machine like a printer which contains toner. Toner is a powder used in laser printers and photocopiers which forms the text and images on the printed paper. Toner can be melted by the heat of the fuser, causing it to bind to the fibers in the paper.

URL

Uniform Resource Locator (URL) is the global address of documents and resources on the Internet. The first part of the address indicates what protocol to use, the second part specifies the IP address or the domain name where the resource is located.

USB

Universal serial bus (USB) is a standard that was developed by the USB Implementers Forum, Inc., to connect computers and peripherals. Unlike the parallel port, USB is designed to concurrently connect a single computer USB port to multiple peripherals.

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Samsung Printer

Software section

SOFTWARE SECTION
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1 Installing Printer Software in Windows

This chapter includes:

- **Installing Printer Software**
- **Reinstalling Printer Software**
- **Removing Printer Software**
- **Installing mono printer driver**

NOTE: The following procedure is based on Windows XP, for other operating systems, refer to the corresponding Windows user's guide or online help.

Installing Printer Software

You can install the printer software for local printing or network printing. To install the printer software on the computer, perform the appropriate installation procedure depending on the printer in use.

A printer driver is software that lets your computer communicate with your printer. The procedure to install drivers may differ depending on the operating system you are using.

All applications should be closed on your PC before beginning installation.

Installing Software for Local Printing

A local printer is a printer directly attached to your computer using the printer cable supplied with your printer, such as a USB or parallel cable. If your printer is attached to a network, skip this step and go to "Installing Software for Network Printing" on page 7.

You can install the printer software using the typical or custom method.

NOTE: If the "New Hardware Wizard" window appears during the installation procedure, click in the upper right corner of the box to close the window, or click **Cancel**.

Typical Installation

This is recommended for most users. All components necessary for printer operations will be installed.

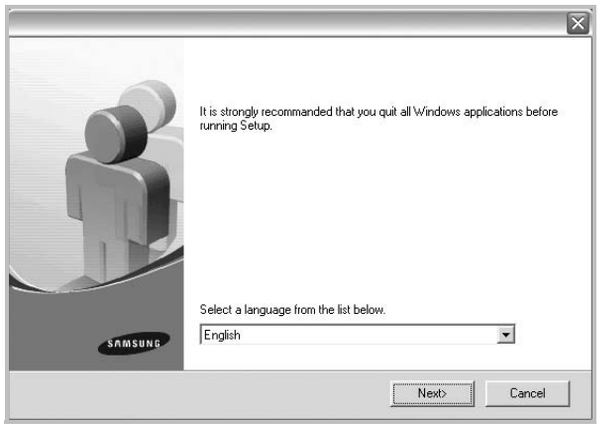
1. Make sure that the printer is connected to your computer and powered on.
2. Insert the supplied CD-ROM into your CD-ROM drive.

   The CD-ROM should automatically run, and an installation window appears.

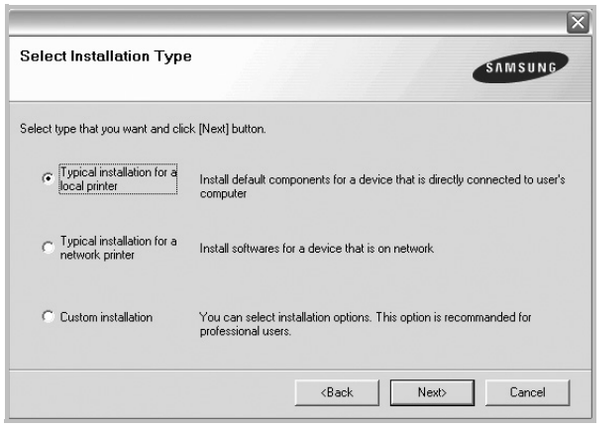
   If the installation window does not appear, click **Start** and then **Run**. Type **X:\Setup.exe**, replacing "**X**" with the letter which represents your drive and click **OK**.

   If you use Windows Vista, click **Start** →**All programs** → **Accessories** →**Run**, and type **X:\Setup.exe**.

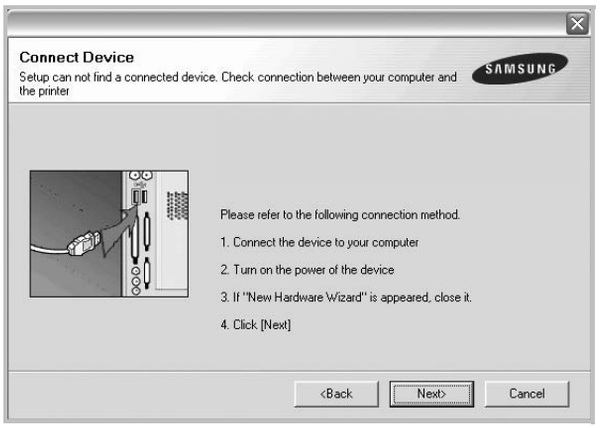
   If the **AutoPlay** window appears in Windows Vista, click **Run Setup.exe** in **Install or run program** field, and click **Continue** in the **User Account Control** window.



3. Click **Next**.
   - If necessary, select a language from the drop-down list.
4. Select **Typical installation for a local printer**. Click **Next**.



NOTE: If your printer is not already connected to the computer, the following window will appear.



- After connecting the printer, click **Next**.
- If you don't want to connect the printer at this time, click **Next**, and **No** on the following screen. Then the installation will start and a test page will not be printed at the end of the installation.
- ***The installation window that appears in this User's Guide may differ depending on the printer and interface in use.***

5 After the installation is finished, a window asking you to print a test page appears. If you choose to print a test page, select the checkbox and click **Next**.

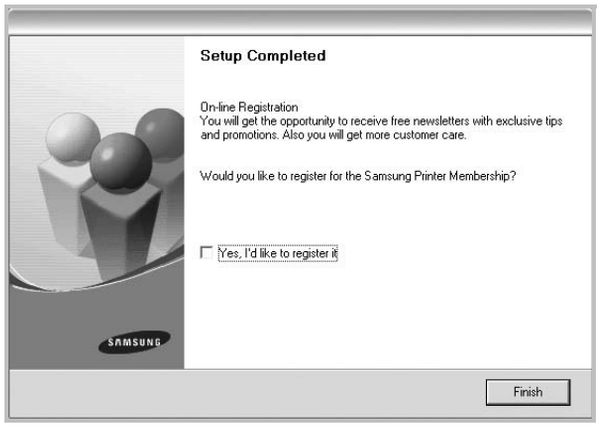
Otherwise, just click **Next** and skip to step 7.

6 If the test page prints out correctly, click **Yes**.

If not, click **No** to reprint it.

7 To register yourself as a user of Samsung Printers in order to receive information from Samsung, select the checkbox and click **Finish**. You are now sent to the Samsung web site.

Otherwise, just click **Finish**.



NOTE: After setup is complete, if your printer driver doesn't work properly, reinstall the printer driver. See "Reinstalling Printer Software" on page 10.

Custom Installation

You can choose individual components to install.

1 Make sure that the printer is connected to your computer and powered on.

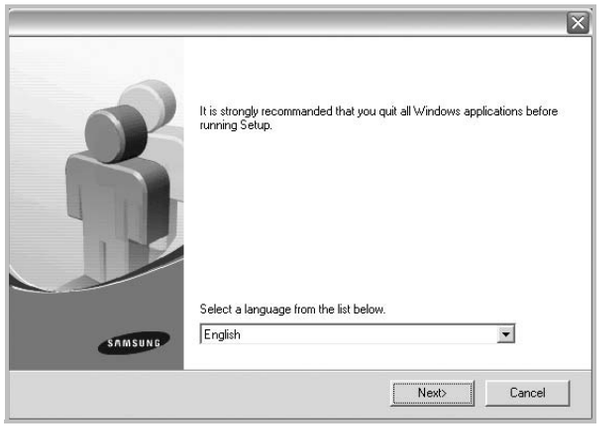
2 Insert the supplied CD-ROM into your CD-ROM drive.

The CD-ROM should automatically run, and an installation window appears.

If the installation window does not appear, click **Start** and then **Run**. Type **X:\Setup.exe**, replacing "**X**" with the letter which represents your drive and click **OK**.

If you use Windows Vista, click **Start** →**All programs** → **Accessories** →**Run**, and type **X:\Setup.exe**.

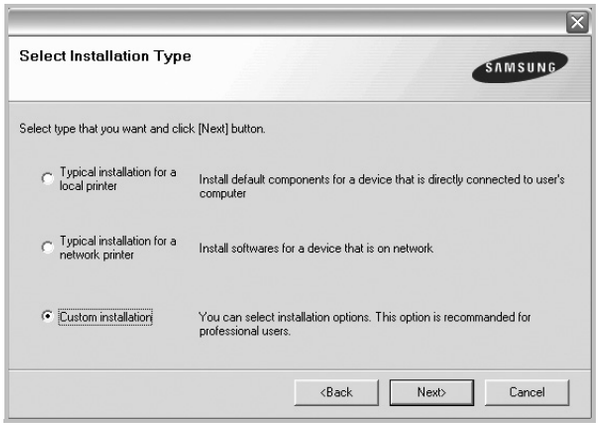
If the **AutoPlay** window appears in Windows Vista, click **Run Setup.exe** in **Install or run program** field, and click **Continue** in the **User Account Control** window.



3 Click **Next**.

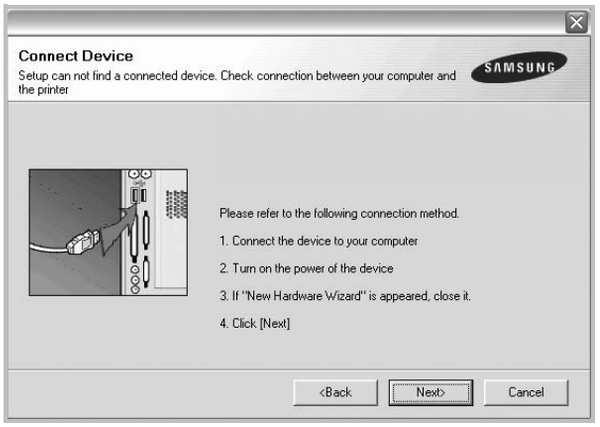
- If necessary, select a language from the drop-down list.
- **View User's Guide**: Allows you to view the User's Guide. If your computer doesn't have Adobe Acrobat, click on this option and it will automatically install Adobe Acrobat Reader for you.

4 Select **Custom installation**. Click **Next**.



5 Select your printer and click **Next**.

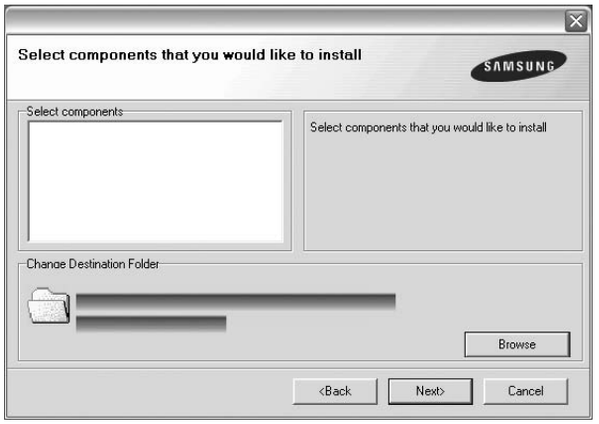
NOTE: If your printer is not already connected to the computer, the following window will appear.



- After connecting the printer, click **Next**.
- If you don't want to connect the printer at this time, click **Next**, and **No** on the following screen. Then the installation will start and a test page will not be printed at the end of the installation.

• The installation window that appears in this User's Guide may differ depending on the printer and interface in use.

6 Select the components to be installed and click **Next**.



NOTE: You can change the desired installation folder by clicking [**Browse**].

7 After the installation is finished, a window asking you to print a test page appears. If you choose to print a test page, select the checkbox and click **Next**.

Otherwise, just click **Next** and skip to step 9.

8 If the test page prints out correctly, click **Yes**.

If not, click **No** to reprint it.

9 To register yourself as a user of Samsung Printers in order to receive information from Samsung, select the checkbox and click **Finish**. You are now sent to the Samsung web site.

Otherwise, just click **Finish**.

Installing Software for Network Printing

When you connect your printer to a network, you must first configure the TCP/IP settings for the printer. After you have assigned and verified the TCP/IP settings, you are ready to install the software on each computer on the network.

You can install the printer software using the typical or custom method.

Typical Installation

This is recommended for most users. All components necessary for printer operations will be installed.

1 Make sure that the printer is connected to your network and powered on. For details about connecting to the network, see the supplied printer's User's Guide.

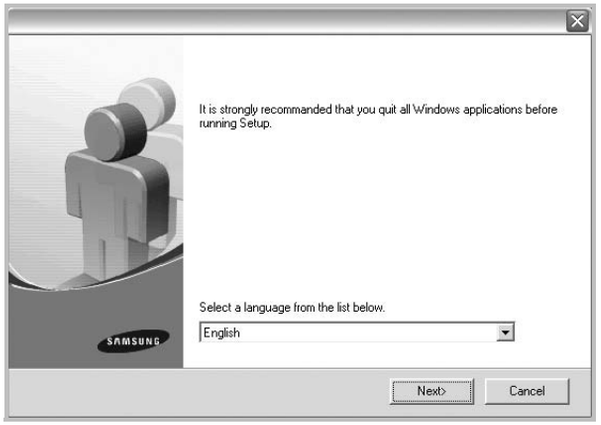
2 Insert the supplied CD-ROM into your CD-ROM drive.

The CD-ROM should automatically run, and an installation window appears.

If the installation window does not appear, click **Start** and then **Run**. Type **X:\Setup.exe**, replacing "**X**" with the letter which represents your drive and click **OK**.

If you use Windows Vista, click **Start** →**All programs** → **Accessories** →**Run**, and type **X:\Setup.exe**.

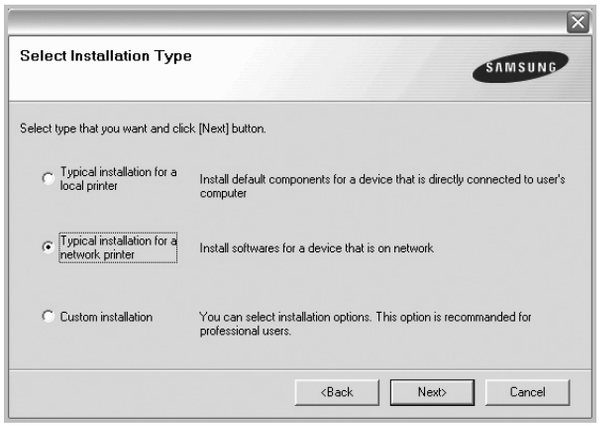
If the **AutoPlay** window appears in Windows Vista, click **Run Setup.exe** in **Install or run program** field, and click **Continue** in the **User Account Control** window.



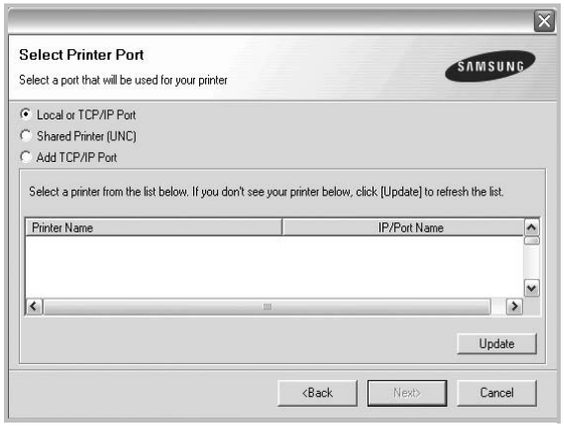
3 Click **Next**.

- If necessary, select a language from the drop-down list.
- **View User's Guide**: Allows you to view the User's Guide. If your computer doesn't have Adobe Acrobat, click on this option and it will automatically install Adobe Acrobat Reader for you.

4 Select **Typical installation for a network printer**. Click **Next**.



5 The list of printers available on the network appears. Select the printer you want to install from the list and then click **Next**.



- If you do not see your printer on the list, click **Update** to refresh the list, or select **Add TCP/IP Port** to add your printer to the network. To add the printer to the network, enter the port name and the IP address for the printer.

  To verify your printer's IP address or the MAC address, print a Network Configuration page.

- To find a shared network printer (UNC Path), select **Shared Printer [UNC]** and enter the shared name manually or find a shared printer by clicking the **Browse** button.

NOTE: If you cannot find your machine in network, please turn off the firewall and click **Update**.

6 After the installation is finished, a window appears asking you to print a test page and to register yourself as a user of Samsung Printers in order to receive information from

Samsung. If you so desire, select the corresponding checkbox(es) and click **Finish**.

Otherwise, just click **Finish**.

NOTE: After setup is complete, if your printer driver doesn't work properly, reinstall the printer driver. See "Reinstalling Printer Software" on page 10.

Custom Installation

You can choose individual components to install and set a specific IP address.

1. Make sure that the printer is connected to your network and powered on. For details about connecting to the network, see the supplied printer's User's Guide.

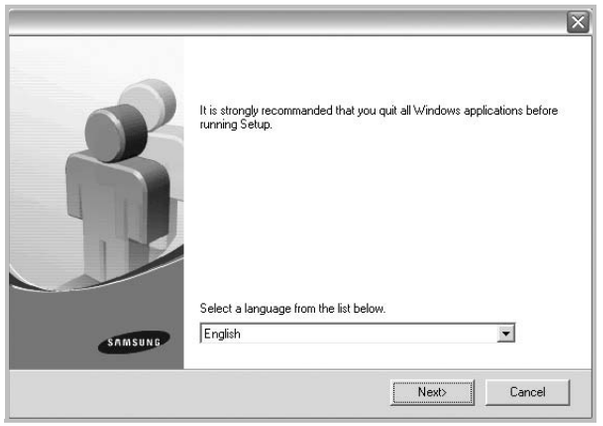
2. Insert the supplied CD-ROM into your CD-ROM drive.

   The CD-ROM should automatically run, and an installation window appears.

   If the installation window does not appear, click **Start** and then **Run**. Type **X:\Setup.exe**, replacing "**X**" with the letter which represents your drive and click **OK**.

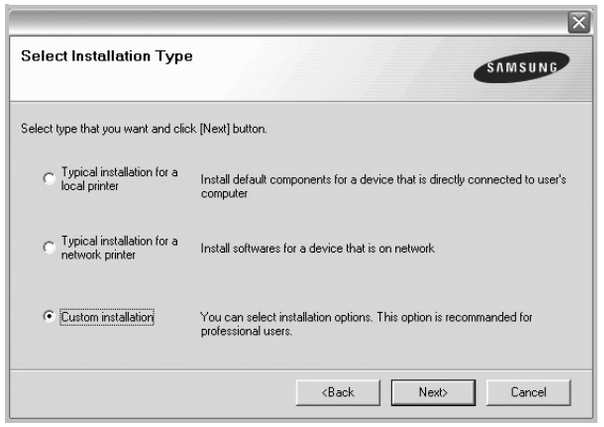
   If you use Windows Vista, click **Start** →**All programs** → **Accessories** →**Run**, and type **X:\Setup.exe**.

   If the **AutoPlay** window appears in Windows Vista, click **Run Setup.exe** in **Install or run program** field, and click **Continue** in the **User Account Control** window.

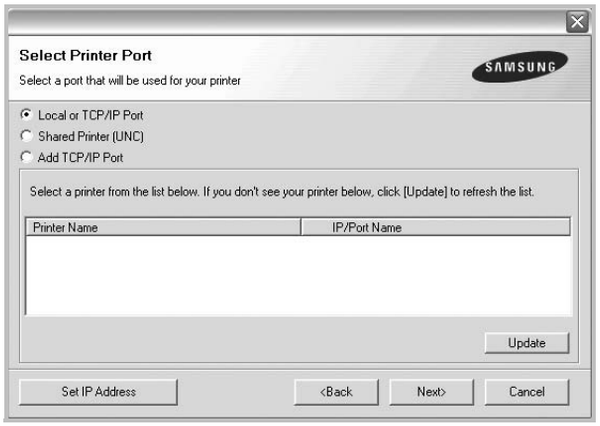


3. Click **Next**.
   - If necessary, select a language from the drop-down list.
   - **View User's Guide**: Allows you to view the User's Guide. If your computer doesn't have Adobe Acrobat, click on this option and it will automatically install Adobe Acrobat Reader for you.

4. Select **Custom installation**. Click **Next**.



5 The list of printers available on the network appears. Select the printer you want to install from the list and then click **Next**.



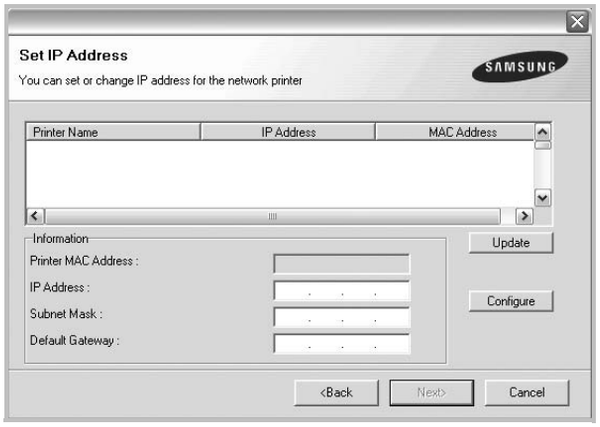
- If you do not see your printer on the list, click **Update** to refresh the list, or select **Add TCP/IP Port** to add your printer to the network. To add the printer to the network, enter the port name and the IP address for the printer.

  To verify your printer's IP address or the MAC address, print a Network Configuration page.

- To find a shared network printer (UNC Path), select **Shared Printer [UNC]** and enter the shared name manually or find a shared printer by clicking the **Browse** button.

NOTE: If you cannot find your machine in network, please turn off the firewall and click **Update**.

TIP: If you want to set a specific IP address on a specific network printer, click the **Set IP Address** button. The Set IP Address window appears. Do as follows:

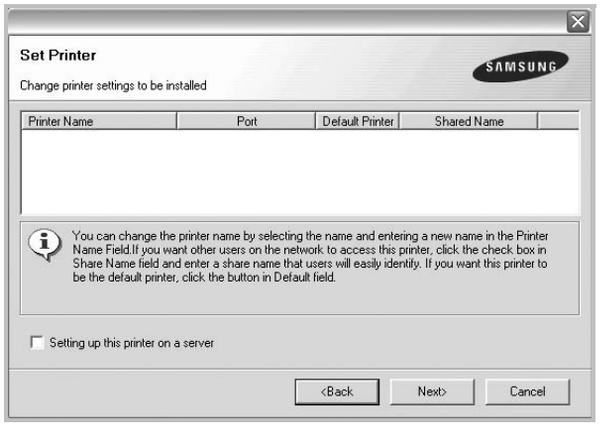


a. Select a printer to be set with a specific IP address from the list.

b. Configure an IP address, subnet mask, and gateway for the printer manually and click **Configure** to set the specific IP address for the network printer.

c. Click **Next**.

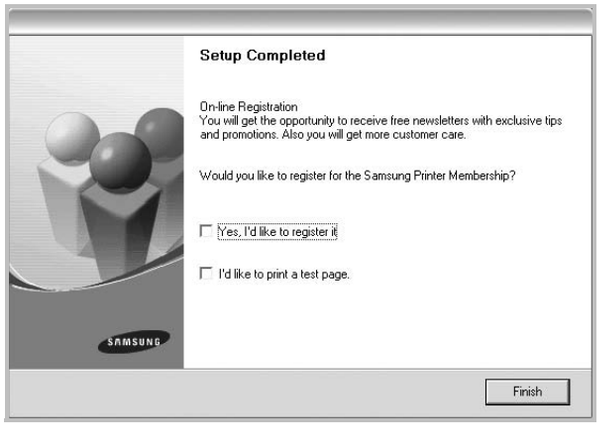
6 Select the components to be installed. After selecting the components, the following window appears. You can also change the printer name, set the printer to be shared on the network, set the printer as the default printer, and change the port name of each printer. Click **Next**.



To install this software on a server, select the **Setting up this printer on a server** checkbox.

7 After the installation is finished, a window appears asking you to print a test page and to register yourself as a user of Samsung Printers in order to receive information from Samsung. If you so desire, select the corresponding checkbox(es) and click **Finish**.

Otherwise, just click **Finish**.

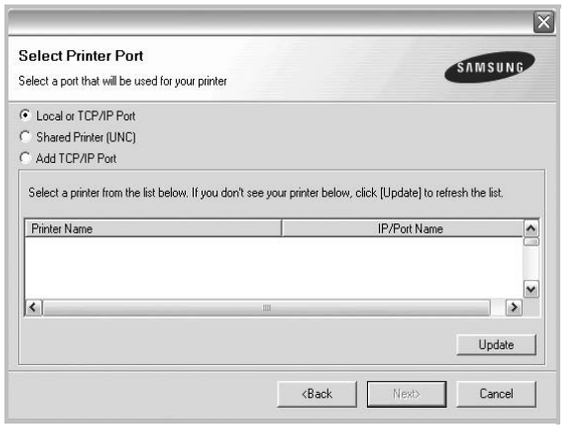


NOTE: After setup is complete, if your printer driver doesn't work properly, reinstall the printer driver. See "Reinstalling Printer Software" on page 10.

Reinstalling Printer Software

You can reinstall the software if installation fails.

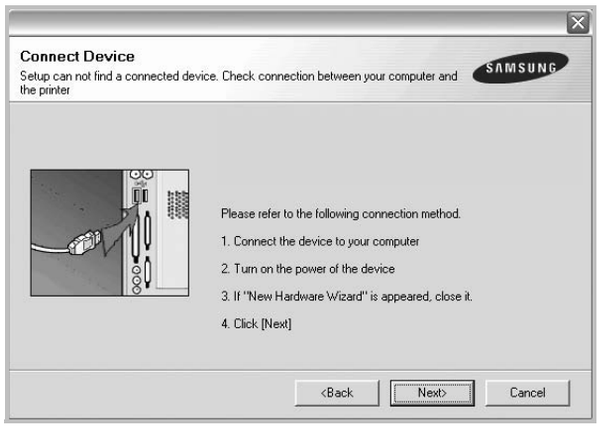
1. Start Windows.
2. From the **Start** menu select **Programs** or **All Programs** → **your printer driver name** →**Maintenance**.
3. Select **Repair** and click **Next**.
4. The list of printers available on the network appears. Select the printer you want to install from the list and then click **Next**.



- If you do not see your printer on the list, click **Update** to refresh the list, or select **Add TCP/IP Port** to add your printer to the network. To add the printer to the network, enter the port name and the IP address for the printer.
- To find a shared network printer (UNC Path), select **Shared Printer [UNC]** and enter the shared name manually or find a shared printer by clicking the **Browse** button.

You will see a component list so that you can reinstall any item individually.

NOTE: If your printer is not already connected to the computer, the following window will appear.



- After connecting the printer, click **Next**.
- If you don't want to connect the printer at this time, click **Next**, and **No** on the following screen. Then the installation will start and a test page will not be printed at the end of the installation.
- ***The reinstallation window that appears in this User's Guide may differ depending on the printer and interface in use.***

5. Select the components you want to reinstall and click **Next**.

   If you installed the printer software for local printing and you select **your printer driver name**, the window asking you to print a test page appears. Do as follows:

   a. To print a test page, select the check box and click **Next**.

   b. If the test page prints out correctly, click **Yes**.

   If it doesn't, click **No** to reprint it.
6. When the reinstallation is done, click **Finish**.

Removing Printer Software

1. Start Windows.
2. From the **Start** menu select **Programs** or **All Programs** → **your printer driver name** →**Maintenance**.
3. Select **Remove** and click **Next**.

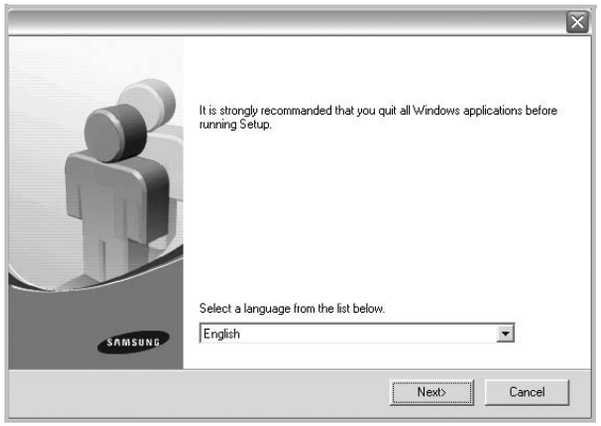
   You will see a component list so that you can remove any item individually.
4. Select the components you want to remove and then click **Next**.
5. When your computer asks you to confirm your selection, click **Yes**.

   The selected driver and all of its components are removed from your computer.
6. After the software is removed, click **Finish**.

Installing mono printer driver

This printer provides you the printer drivers with a mono driver so you can use your printer as a monochrome printer. You must install the mono driver on your computer. Following steps guide you through the step by step installation process.

1. Make sure that the printer is connected to your computer and powered on. Or your computer and printer are connected to the network.
2. Insert the supplied CD-ROM into your CD-ROM drive. The CD-ROM should automatically run, and an installation window appears.
3. Click Cancel.



   If the confirmation window appears, click Finish.
4. Click **Start** →**Printers and Faxes**.
5. Select **Add Printer**.
6. When **Add Printer Wizard** appears, click **Next**.
7. Select **Local printer attached to this computer**, and **Automatically detect and install my Plug and Play printer**, then click **Next**. Go to step 13.

   If your computer does not find the printer, then follow the next step.
8. Select **Next** in the **Select a Printer Port** window.
9. In the **Select a Printer Port** window, select **Have Disk...**.
10. Click **Browse** to find a mono driver for your printer.

    ex) Windows XP 32 bit

    Select CD-ROM drive →**Printer** →**PC_MONO** → **WINXP_2000_VISTA-32**
11. Select ***.inf** file and click **Open**.
12. Click **OK** in the **Install From Disk** window.
13. Select a mono driver in the **Printers** field, and click **Next**.

NOTE: If you have installed a mono driver before, then the **Use Existing Driver** window. Select as the window explains, and click **Next**. Also, depending on your computer configuration, the printer sharing window or the print the test page window may appear; make the appropriate selection.

14. Enter your printer name, and click **Next**.
15. Click **Finish** to start installing a mono printer driver.

NOTE: If your printer is connected to a network, go to printer's **Properties** and select the **Ports** tab, then click **Add Port**and **Standard TCP/IP Port**, and create a new port to connect to the printer. To create a new port, follow the procedure laid out in the wizard window.

2 Basic Printing

This chapter explains the printing options and common printing tasks in Windows.

This chapter includes:

- **Printing a Document**
- **Printing to a file (PRN)**
- **Printer Settings**
  - **Layout Tab**
  - **Paper Tab**
  - **Graphics Tab**
  - **Extras Tab**
  - **About Tab**
  - **Printer Tab**
  - **Using a Favorite Setting**
  - **Using Help**

Printing a Document

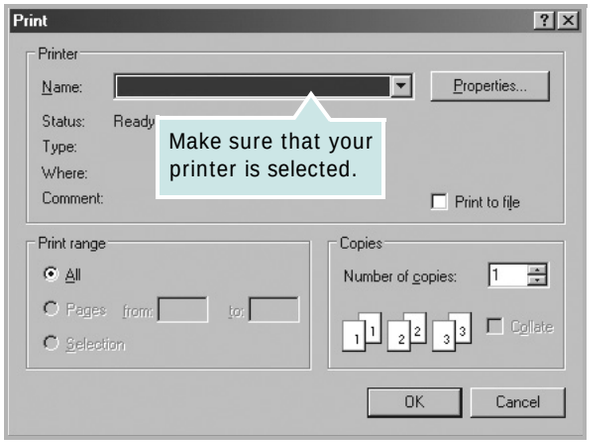
NOTES:

- Your printer driver **Properties** window that appears in this User's Guide may differ depending on the printer in use. However the composition of the printer properties window is similar.
- ***Check the Operating System(s) that are compatible with your printer. Please refer to the OS Compatibility section of Printer Specifications in your Printer User's Guide.***
- If you need to know the exact name of your printer, you can check the supplied CD-ROM.

The following procedure describes the general steps required for printing from various Windows applications. The exact steps for printing a document may vary depending on the application program you are using. Refer to the User's Guide of your software application for the exact printing procedure.

1. Open the document you want to print.
2. Select **Print** from the **File** menu. The Print window is displayed. It may look slightly different depending on your application.

   The basic print settings are selected within the Print window. These settings include the number of copies and print range.



3. Select **your printer driver** from the **Name** drop-down list.

   To take advantage of the printer features provided by your printer driver, click **Properties** or **Preferences** in the application's Print window. For details, see "Printer Settings" on page 13.

   If you see **Setup**, **Printer**, or **Options** in your Print window, click it instead. Then click **Properties** on the next screen.

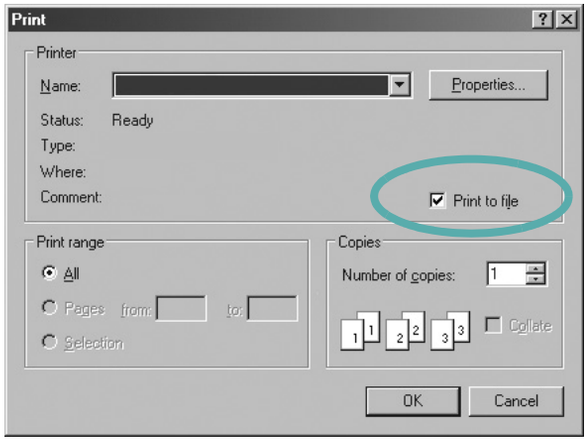
   Click **OK** to close the printer properties window.
4. To start the print job, click **OK** or **Print** in the Print window.

Printing to a file (PRN)

You will sometimes need to save the print data as a file for your purpose.

To create a file:

1 Check the **Print to file** box at the **Print** window.



2 Select the folder and assign a name of the file and then click OK.

Printer Settings

You can use the printer properties window, which allows you to access all of the printer options you need when using your printer. When the printer properties are displayed, you can review and change the settings needed for your print job.

Your printer properties window may differ, depending on your operating system. This Software User's Guide shows the Properties window for Windows XP.

Your printer driver **Properties** window that appears in this User's Guide may differ depending on the printer in use.

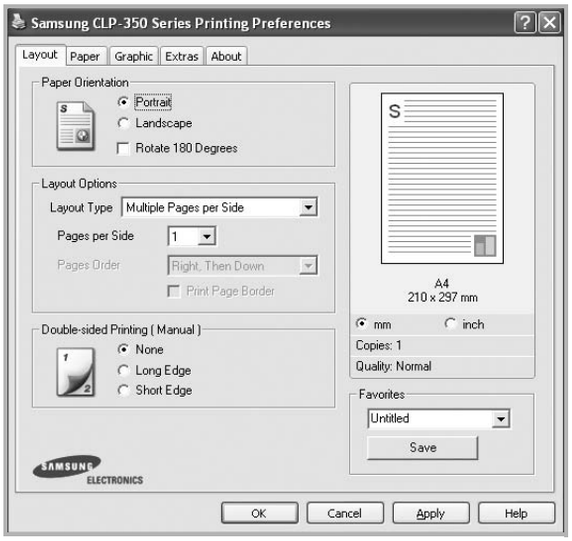
If you access printer properties through the Printers folder, you can view additional Windows-based tabs (refer to your Windows User's Guide) and the Printer tab (see "Printer Tab" on page 16).

NOTES:

- Most Windows applications will override settings you specify in the printer driver. Change all print settings available in the software application first, and change any remaining settings using the printer driver.
- The settings you change remain in effect only while you are using the current program. **To make your changes permanent**, make them in the Printers folder.
- The following procedure is for Windows XP. For other Windows OS, refer to the corresponding Windows User's Guide or online help.
  1. Click the Windows **Start** button.
  2. Select **Printers and Faxes**.
  3. Select **your printer driver icon**.
  4. Right-click on the printer driver icon and select **Printing Preferences**.
  5. Change the settings on each tab, click OK.

Layout Tab

The **Layout** tab provides options to adjust how the document appears on the printed page. The **Layout Options** includes **Multiple Pages per Side**, **Poster Printing** and **Booklet Printing**. See “Printing a Document” on page 12 for more information on accessing printer properties.



Paper Orientation

Paper Orientation allows you to select the direction in which information is printed on a page.

- **Portrait** prints across the width of the page, letter style.
- **Landscape** prints across the length of the page, spreadsheet style.
- **Rotate 180 Degrees** allows you to rotate the page, 180 degrees.

▲ Portrait

▲ Landscape

Layout Options

Layout Options allows you to select advanced printing options. You can choose **Multiple Pages per Side** and **Poster Printing**.

- For details, see “Printing Multiple Pages on One Sheet of Paper (N-Up Printing)” on page 18.
- For details, see “Printing Posters” on page 19
- For details, see “Printing Booklets” on page 19

Double-sided Printing

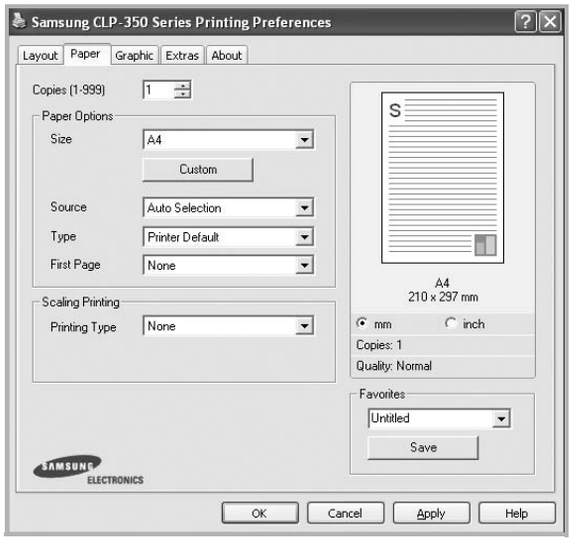
Double-sided Printing allows you to print on both sides of paper. ***If this option does not appear, your printer does not have this feature.***

- For details, see “Printing on Both Sides of Paper” on page 20.

Paper Tab

Use the following options to set the basic paper handling specifications when you access the printer properties. See “Printing a Document” on page 12 for more information on accessing printer properties.

Click the **Paper** tab to access various paper properties.



Copies

Copies allows you to choose the number of copies to be printed. You can select 1 to 999 copies.

Paper Options

Size

Size allows you to set the size of paper you loaded in the tray. If the required size is not listed in the **Size** box, click **Custom**. When the **Custom Paper Setting** window appears, set the paper size and click **OK**. The setting appears in the list so that you can select it.

Source

Make sure that **Source** is set to the corresponding paper tray. Use **Manual Feeder** when printing on special materials like envelopes and transparencies.
If the paper source is set to **Auto Selection**, the printer automatically picks up print material in the following tray order: Tray1 or Tray2.

Type

Set **Type** to correspond to the paper loaded in the tray from which you want to print. This will let you get the best quality printout. If not, print quality may not be acheived as you want.

Thin: 16 lb to 19 lb (60~70 g/m^2) thin paper.

Thick: 24 lb to 28 lb (90~105 g/m^2) thick paper.

Cotton: 20 lb to 24 lb (75~90 g/m^2) cotton paper such as Gilbert 25 % and Gilbert 100 %.

Plain Paper: Normal plain paper. Select this type if your printer is monochrome and printing on the 16 lb (60 g/m^2) cotton paper.
Recycled Paper: 20 lb to 24 lb (75~90 g/m^2) recycled paper.
Color Paper: 20 lb to 24 lb (75~90 g/m^2) color-backgrounded paper.
Archive Paper: If you need to keep print-out for a long period time such as archives, select this option.

First Page

This property allows you to print the first page using a different paper type from the rest of the document. You can select the paper source for the first page.
For example, load thick stock for the first page into the tray 2, and plain paper into Tray 1. Then, select **Tray1** in the **Source** option and **Tray2** in the **First Page** option. ***If this option does not appear, your printer does not have this feature.***

Scaling Printing

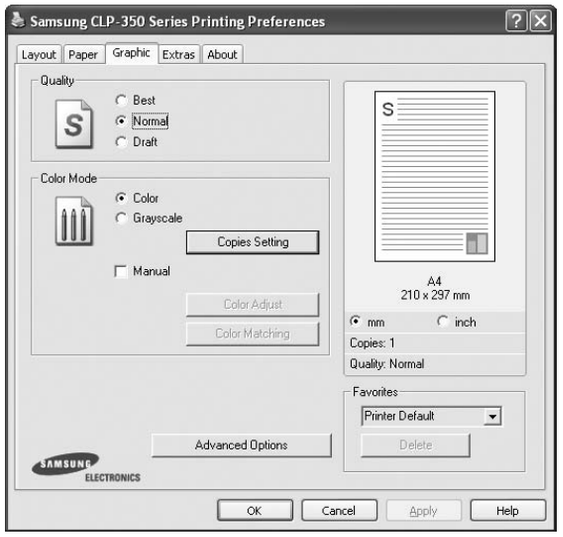
Scaling Printing allows you to automatically or manually scale your print job on a page. You can choose from **None**, **Reduce/ Enlarge**, and **Fit to Page**.

- For details, see “Printing a Reduced or Enlarged Document” on page 20.
- For details, see “Fitting Your Document to a Selected Paper Size” on page 20.

Graphics Tab

Use the following Graphic options to adjust the print quality for your specific printing needs. See “Printing a Document” on page 12 for more information on accessing printer properties.

Click the **Graphic** tab to display the properties shown below.



Quality

The Quality options you can select may vary depending on your printer model. The higher the setting, the sharper the clarity of printed characters and graphics. The higher setting also may increase the time it takes to print a document.

Color Mode

You can choose color options. Setting to **Color** typically produces the best possible print quality for color documents. If you want to print a color document in grayscale, select **Grayscale**. If you want to adjust the color options manually, select **Manual** and click the **Color Adjust** or **Color Matching** button.

- **Copies Setting** : When you make several copies, and if you want to print some copies in color and some in grayscale, use this option and select the number of copies in grayscale.
- **Color Adjust** : You can adjust the appearance of images by changing the settings in the **Levels** option.
- **Color Matching** : You can adjust the appearance of images by changing the settings in the **Settings** option. Especially **Samsung DigiColor** feature helps produce printed output that faithfully reproduces the colors and tints of sky and grass. It is intented to be used to print photographs, but will change the color output of any color printout. You can choose from **Basic Color**, **Sapphire**, **Emerald** and **Aquamarine**.

Advanced Options

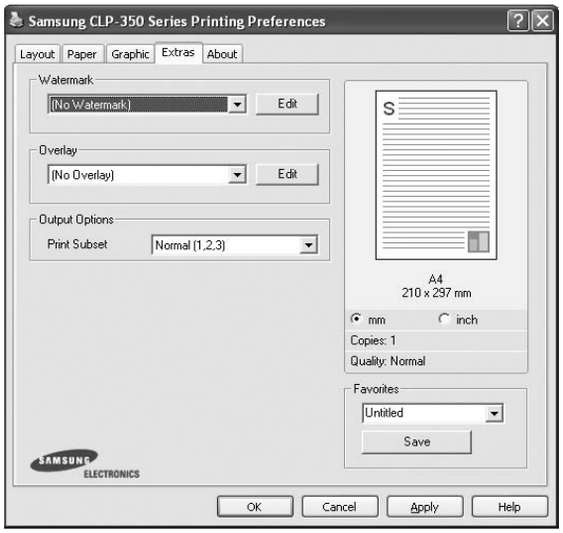
You can set advanced settings by clicking the **Advanced Options** button.

- **Print All Text To Black**: When the **Print All Text To Black** option is checked, all text in your document prints solid black, regardless of the color it appears on the screen.
- **Print All Text to Darken**: When the **Print All Text to Darken** option is checked, all text in your document is allowed to print darker than on a normal document.

Extras Tab

You can select output options for your document. See “Printing a Document” on page 12 for more information about accessing the printer properties.

Click the **Extras** tab to access the following feature:



Watermark

You can create a background text image to be printed on each page of your document. For details, see “Using Watermarks” on page 21.

Overlay

Overlays are often used to take the place of preprinted forms and letterhead paper. For details, see “Using Overlays” on page 22.

Output Options

- **Print Subset**: You can set the sequence in which the pages print. Select the print order from the drop-down list.
  - **Normal (1,2,3)**: Your printer prints all pages from the first page to the last page.
  - **Reverse All Pages (3,2,1)**: Your printer prints all pages from the last page to the first page.
  - **Print Odd Pages**: Your printer prints only the odd numbered pages of the document.
  - **Print Even Pages**: Your printer prints only the even numbered pages of the document.

About Tab

Use the **About** tab to display the copyright notice and the version number of the driver. If you have an Internet browser, you can connect to the Internet by clicking on the web site icon. See “Printing a Document” on page 12 for more information about accessing printer properties.

Printer Tab

If you access printer properties through the **Printers** folder, you can view the **Printer** tab. You can set the printer configuration.

The following procedure is for Windows XP. For other Windows OS, refer to the corresponding Windows User's Guide or online help.

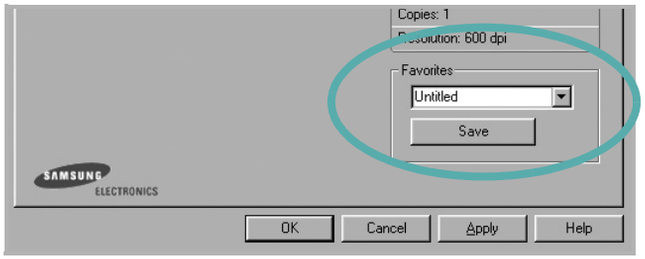
1. Click the Windows **Start** menu.
2. Select **Printers and Faxes**.
3. Select **your printer driver** icon.
4. Right-click on the printer driver icon and select **Properties**.
5. Click the **Printer** tab and set the options.

Using a Favorite Setting

The **Favorites** option, which is visible on each properties tab, allows you to save the current properties settings for future use.

To save a **Favorites** item:

1. Change the settings as needed on each tab.
2. Enter a name for the item in the **Favorites** input box.



3. Click **Save**.

   When you save **Favorites**, all current driver settings are saved.

To use a saved setting, select the item from the **Favorites** drop down list. The printer is now set to print according to the Favorites setting you selected.

To delete a Favorites item, select it from the list and click **Delete**.

You can also restore the printer driver's default settings by selecting **Printer Default** from the list.

Using Help

Your printer has a help screen that can be activated by clicking the **Help** button in the printer properties window. These help screens give detailed information about the printer features provided by the printer driver.

You can also click from the upper right corner of the window, and then click on any setting.

3 Advanced Printing

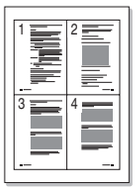
This chapter explains printing options and advanced printing tasks.

NOTE:
- Your printer driver **Properties** window that appears in this User's Guide may differ depending on the printer in use. However the composition of the printer properties window is similar.
- If you need to know the exact name of your printer, you can check the supplied CD-ROM.

This chapter includes:

- **Printing Multiple Pages on One Sheet of Paper (N-Up Printing)**
- **Printing Posters**
- **Printing Booklets**
- **Printing on Both Sides of Paper**
- **Printing a Reduced or Enlarged Document**
- **Fitting Your Document to a Selected Paper Size**
- **Using Watermarks**
- **Using Overlays**

Printing Multiple Pages on One Sheet of Paper (N-Up Printing)

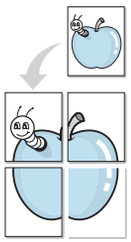


You can select the number of pages to print on a single sheet of paper. To print more than one page per sheet, the pages will be reduced in size and arranged in the order you specify. You can print up to 16 pages on one sheet.

1. To change the print settings from your software application, access printer properties. See "Printing a Document" on page 12.
2. From the **Layout** tab, choose **Multiple Pages per Side** in the **Layout Type** drop-down list.
3. Select the number of pages you want to print per sheet (1, 2, 4, 6, 9, or 16) in the **Pages per Side** drop-down list.
4. Select the page order from the **Page Order** drop-down list, if necessary.

   Check **Print Page Border** to print a border around each page on the sheet.
5. Click the **Paper** tab, select the paper source, size, and type.
6. Click **OK** and print the document.

Printing Posters

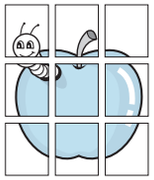


This feature allows you to print a single-page document onto 4, 9, or 16 sheets of paper, for the purpose of pasting the sheets together to form one poster-size document.

1. To change the print settings from your software application, access printer properties. See “Printing a Document” on page 12.
2. Click the **Layout** tab, select **Poster Printing** in the **Layout Type** drop-down list.
3. Configure the poster option:

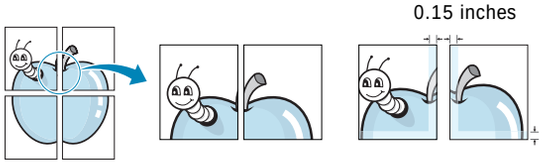
   You can select the page layout from **Poster<2x2>**, **Poster<3x3>**, **Poster<4x4>** or **Custom**. If you select **Poster<2x2>**, the output will be automatically stretched to cover 4 physical pages. If the option is set to Custom, you can enlarge the original from 150% to 400%. Depending on the level of the enlargement, the page layout is automatically adjusted to **Poster<2x2>**, **Poster<3x3>**, **Poster<4x4>**.

▲ 2x2



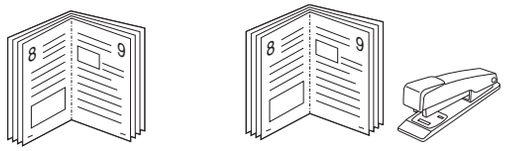
▲ 3x3

   Specify an overlap in millimeters or inches to make it easier to pasting the sheets together.



4. Click the **Paper** tab, select the paper source, size, and type.
5. Click **OK** and print the document. You can complete the poster by pasting the sheets together.

Printing Booklets



This printer feature allows you to print your document on both sides of the paper and arranges the pages so that the paper can be folded in half after printing to produce a booklet.

1. To change the print settings from your software application, access the printer properties. See “Printing a Document” on page 12.
2. From the **Layout** tab, choose **Booklet Printing** from the **Layout Type** drop-down list.

NOTE: The **Booklet Printing** option is not available for all paper sizes. In order to find out the available paper size for this feature, select the paper size in the **Size** option on the **Paper** tab, then check if the **Booklet Printing** in a **Layout Type** drop-down list on the **Layout** tab is activated.

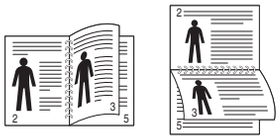
3. Click the **Paper** tab, and select the paper source, size, and type.
4. Click **OK** and print the document.
5. After printing, fold and staple the pages.

Printing on Both Sides of Paper

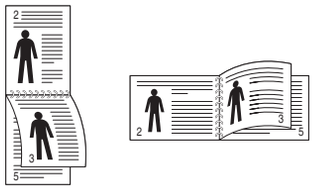
You can print on both sides of a sheet of paper. Before printing, decide how you want your document oriented.

The options are:

- **None**
- **Long Edge**, which is the conventional layout used in book binding.
- **Short Edge**, which is the type often used with calendars.



▲ Long Edge



▲ Short Edge

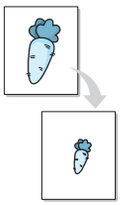
NOTE:

- Do not print on both sides of labels, transparencies, envelopes, or thick paper. Paper jamming and damage to the printer may result.

1. To change the print settings from your software application, access printer properties. “Printing a Document” on page 12.
2. From the **Layout** tab, select the paper orientation.
3. From the **Double-sided Printing** section, select the binding option you want.
4. Click the **Paper** tab and select the paper source, size, and type.
5. Click **OK** and print the document.

NOTE: If your printer does not have a duplex unit, you should complete the printing job manually. The printer prints every other page of the document first. After printing the first side of your job, the Printing Tip window appears. Follow the on-screen instructions to complete the printing job.

Printing a Reduced or Enlarged Document

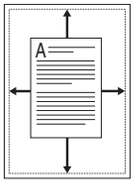


You can change the size of a page’s content to appear larger or smaller on the printed page.

1. To change the print settings from your software application, access printer properties. See “Printing a Document” on page 12.
2. From the **Paper** tab, select **Reduce/Enlarge** in the **Printing Type** drop-down list.
3. Enter the scaling rate in the **Percentage** input box.

   You can also click the ▼ or ▲ button.
4. Select the paper source, size, and type in **Paper Options**.
5. Click **OK** and print the document.

Fitting Your Document to a Selected Paper Size



This printer feature allows you to scale your print job to any selected paper size regardless of the digital document size. This can be useful when you want to check fine details on a small document.

1. To change the print settings from your software application, access printer properties. See “Printing a Document” on page 12.
2. From the **Paper** tab, select **Fit to Page** in the **Printing Type** drop-down list.
3. Select the correct size from the **Output size** drop-down list.
4. Select the paper source, size, and type in **Paper Options**.
5. Click **OK** and print the document.

Using Watermarks

The Watermark option allows you to print text over an existing document. For example, you may want to have large gray letters reading “DRAFT” or “CONFIDENTIAL” printed diagonally across the first page or all pages of a document.

There are several predefined watermarks that come with the printer, and they can be modified, or you can add new ones to the list.

Using an Existing Watermark

1. To change the print settings from your software application, access printer properties. See “Printing a Document” on page 12.
2. Click the **Extras** tab, and select the desired watermark from the **Watermark** drop-down list. You will see the selected watermark in the preview image.
3. Click **OK** and start printing.

NOTE: The preview image shows how the page will look when it is printed.

Creating a Watermark

1. To change the print settings from your software application, access printer properties. See “Printing a Document” on page 12.
2. Click the **Extras** tab, and click the **Edit** button in the **Watermark** section. The **Edit Watermark** window appears.
3. Enter a text message in the **Watermark Message** box. You can enter up to 40 characters. The message displays in the preview window.

   When the **First Page Only** box is checked, the watermark prints on the first page only.
4. Select watermark options.

   You can select the font name, style, size, or grayscale level from the **Font Attributes** section and set the angle of the watermark from the **Message Angle** section.
5. Click **Add** to add a new watermark to the list.
6. When you have finished editing, click **OK** and start printing.

To stop printing the watermark, select **(No Watermark)** from the **Watermark** drop-down list.

Editing a Watermark

1. To change the print settings from your software application, access printer properties. See “Printing a Document” on page 12.
2. Click the **Extras** tab and click the **Edit** button in the **Watermark** section. The **Edit Watermark** window appears.
3. Select the watermark you want to edit from the **Current Watermarks** list and change the watermark message and options.
4. Click **Update** to save the changes.
5. Click **OK** until you exit the Print window.

Deleting a Watermark

1. To change the print settings from your software application, access printer properties. See “Printing a Document” on page 12.
2. From the **Extras** tab, click the **Edit** button in the Watermark section. The **Edit Watermark** window appears.
3. Select the watermark you want to delete from the **Current Watermarks** list and click **Delete**.
4. Click **OK** until you exit the Print window.

Using Overlays

What is an Overlay?

An overlay is text and/or images stored in the computer hard disk drive (HDD) as a special file format that can be printed on any document. Overlays are often used to take the place of preprinted forms and letterhead paper. Rather than using preprinted letterhead, you can create an overlay containing the exact same information that is currently on your letterhead. To print a letter with your company's letterhead, you do not need to load preprinted letterhead paper in the printer. You need only tell the printer to print the letterhead overlay on your document.

Creating a New Page Overlay

To use a page overlay, you must create a new page overlay containing your logo or image.

1. Create or open a document containing text or an image for use in a new page overlay. Position the items exactly as you wish them to appear when printed as an overlay.
2. To save the document as an overlay, access printer properties. See "Printing a Document" on page 12.
3. Click the **Extras** tab, and click **Edit** button in the **Overlay** section.
4. In the Edit Overlay window, click **Create Overlay**.
5. In the Create Overlay window, type a name of up to eight characters in the **File name** box. Select the destination path, if necessary. (The default is C:\Formover).
6. Click **Save**. The name appears on the **Overlay List** box.
7. Click **OK** or **Yes** to finish creating.

   The file is not printed. Instead it is stored on your computer hard disk drive.

NOTE: The overlay document size must be the same as the documents you print with the overlay. Do not create an overlay with a watermark.

Using a Page Overlay

After an overlay has been created, it is ready to be printed with your document. To print an overlay with a document:

1. Create or open the document you want to print.
2. To change the print settings from your software application, access printer properties. See "Printing a Document" on page 12.
3. Click the **Extras** tab.
4. Select the desired overlay from the **Overlay** drop-down list box.
5. If the overlay file you want does not appear in the **Overlay** list, click **Edit** button and **Load Overlay**, and select the overlay file.

   If you have stored the overlay file you want to use in an external source, you can also load the file when you access the **Load Overlay** window.

   After you select the file, click **Open**. The file appears in the **Overlay List** box and is available for printing. Select the overlay from the **Overlay List** box.
6. If necessary, click **Confirm Page Overlay When Printing**. If this box is checked, a message window appears each time you submit a document for printing, asking you to confirm your wish to print an overlay on your document.

   If this box is not checked and an overlay has been selected, the overlay automatically prints with your document.
7. Click **OK** or **Yes** until printing begins.

   The selected overlay downloads with your print job and prints on your document.

NOTE: The resolution of the overlay document must be the same as that of the document you will print with the overlay.

Deleting a Page Overlay

You can delete page overlays that you no longer use.

1. In the printer properties window, click the **Extras** tab.
2. Click the **Edit** button in the **Overlay** section.
3. Select the overlay you want to delete from the **Overlay List** box.
4. Click **Delete Overlay**.
5. When a confirming message window appears, click **Yes**.
6. Click **OK** until you exit the Print window.

4 Using Windows PostScript Driver

If you want to use the PostScript driver provided with your system CD-ROM to print a document.

PPDs, in combination with the PostScript driver, access printer features and allow the computer to communicate with the printer. An installation program for the PPDs is provided on the supplied software CD-ROM.

Printer Settings

You can use the printer properties window, which allows you to access all of the printer options you need when using your printer. When the printer properties are displayed, you can review and change the settings needed for your print job.

Your printer properties window may differ, depending on your operating system. This Software User's Guide shows the Properties window for Windows XP.

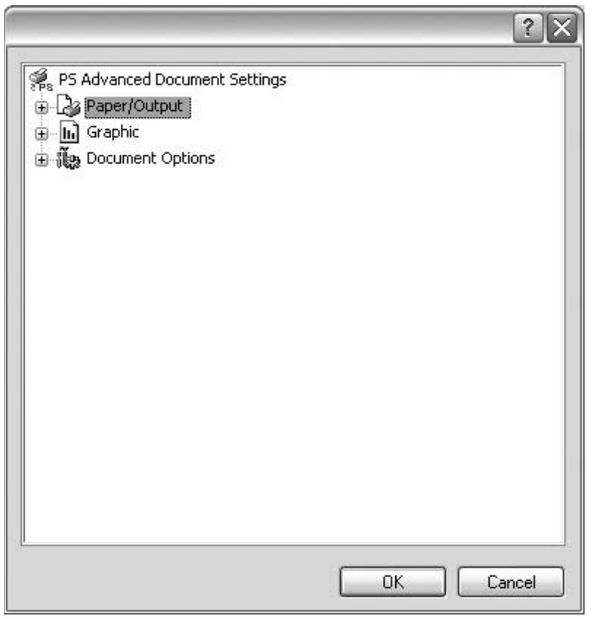
Your printer driver **Properties** window that appears in this User's Guide may differ depending on the printer in use.

NOTES:

- Most Windows applications will override settings you specify in the printer driver. Change all print settings available in the software application first, and change any remaining settings using the printer driver.
- The settings you change remain in effect only while you are using the current program. **To make your changes permanent**, make them in the Printers folder.
- The following procedure is for Windows XP. For other Windows OS, refer to the corresponding Windows User's Guide or online help.
  1. Click the Windows **Start** button.
  2. Select **Printers and Faxes**.
  3. Select **your printer driver icon**.
  4. Right-click on the printer driver icon and select **Printing Preferences**.
  5. Change the settings on each tab, click OK.

Advanced

You can use advanced settings by clicking the **Advanced** button.



- **Paper/Output** this option allows you to select the size of the paper loaded in the tray.
- **Graphic** this option allows you to adjust the print quality for your specific printing needs.
- **Document Options** this options allow you to set the PostScript options or printer features.

Using Help

You can click ? from the upper right corner of the window, and then click on any setting.

5 Sharing the Printer Locally

You can connect the printer directly to a selected computer, which is called “host computer,” on the network.

The following procedure is for Windows XP. For other Windows OS, refer to the corresponding Windows User's Guide or online help.

NOTES:
- Check the Operating System(s) that are compatible with your printer. Please refer to the OS Compatibility section of Printer Specifications in your Printer User’s Guide.
- If you need to know the exact name of your printer, you can check the supplied CD-ROM.

Setting Up a Host Computer

1. Start Windows.
2. From the **Start** menu select **Printers and Faxes**.
3. Double-click **your printer driver icon**.
4. From the **Printer** menu, select **Sharing**.
5. Check the **Share this printer** box.
6. Fill in the **Shared Name** field, and then click **OK**.

Setting Up a Client Computer

1. Right-click the Windows **Start** button and select **Explore**.
2. Select **My Network Places** and then right-click **Search for Computers**.
3. Fill in the IP address of host computer in **Computer name** field, and click **Search**. (In case host computer requires **User name** and **Password**, fill in User ID and password of host computer account.)
4. Double-click **Printers and Faxes**.
5. Right-click printer driver icon, select **Connect**.
6. Click **Yes**, if the installation confirm message appears.

6 Using Smart Panel

Smart Panel is a program that monitors and informs you of the status of the printer, and allows you to customize the printer's settings. Smart Panel is installed automatically when you install the printer software.

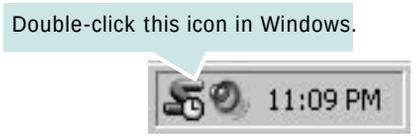
NOTES:

- To use this program, you need:
  - To check for Operating System(s) that are compatible with your printer, refer to Printer Specifications in your Printer User's Guide.
  - Mac OS X 10.3 or higher
  - Linux. To check for Linux systems that are compatible with your printer, refer to Printer Specifications in your Printer User's Guide.
  - Internet Explorer version 5.0 or higher for flash animation in HTML Help.
- If you need to know the exact name of your printer, you can check the supplied CD-ROM.

Understanding Smart Panel

If an error occurs while printing, Smart Panel appears automatically, showing the error.

You can also launch Smart Panel manually. Double-click the Smart Panel icon on the Windows task bar (in Windows), or Notification Area (in Linux). You can also click it on the status bar (in Mac OS X).



If you are a Windows user, from the **Start** menu, select **Programs** or **All Programs** →**your printer driver name** → **Smart Panel**.

NOTES:

- If you have already installed more than one Samsung printer, first select the printer model you want in order to use the corresponding Smart Panel. Right-click (in Windows or Linux) or click (in Mac OS X) the Smart Panel icon and select **your printer name**.
- The Smart Panel window and its contents shown in this Software User's Guide may differ depending on the printer or Operating System in use.

The Smart Panel program displays the current status of the printer, the level of toner remaining in the toner cartridge(s) and various other information. You can also change settings.

1 Toner Level

You can view the level of toner remaining in the toner cartridge(s). The printer and the number of toner cartridge(s) shown in the above window may differ depending on the printer in use. Any printers do not have this feature.

Buy Now
You can order replacement toner cartridge(s) online.

Troubleshooting Guide
You can view Help to solve problems.

Printer Setting
You can configure various printer settings in the Printer Settings Utility window. Any printers do not have this feature.

NOTE: If your printer is connected to a network and you are a Windows and Mac OS X user, the **SyncThru Web Service** window appears instead of the Printer Settings Utility window. Linux does not support network environments.

Driver Setting (Only for Windows)
You can use the printer properties window, which allows you to access all of the printer options you need for using your printer. For details, See "Printer Settings" on page 13.

Opening the Troubleshooting Guide

Using the troubleshooting guide, you can view solutions for error status problems.

Right-click (in Windows or Linux) or click (in Mac OS X) the Smart Panel icon and select **Troubleshooting Guide**.

Using Printer Settings Utility

Using the Printer Settings Utility, you can configure and check print settings.

1. Right-click (in Windows or Linux) or click (in Mac OS X) the Smart Panel icon and select **Printer Setting**.
2. Change the settings.
3. To send the changes to the printer, click the **Apply** button.

NOTES: If your printer is connected to a network, the **SyncThru Web Service** window appears instead of the Printer Settings Utility window.

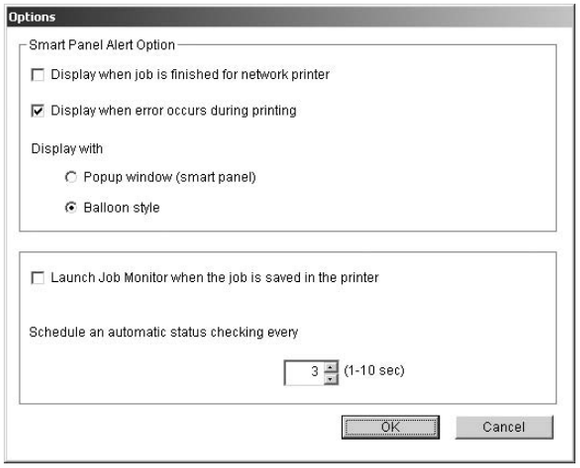
Using Onscreen Help File

For more information about **Printer Settings Utility**, click .

Changing the Smart Panel Program Settings

Right-click (in Windows or Linux) or click (in Mac OS X) the Smart Panel icon and select **Options**.

The following window opens.



- **Display when job is finished for network printer**: The computer shows the Smart Panel popup window or balloon when your job is complete in Windows. ***(Only for Windows and Mac OS x network-supported printers.)***
- **Display when error occurs during printing**: The computer shows the Smart Panel popup window or balloon when an error occurs during printing.
- **Display with**: You can select how the computer shows you a message. If you select **Popup window (smart panel)**, the message appears in the Smart Panel popup window in Windows.
- **Launch Job Monitor when the job is saved in the printer**: If you store print jobs on the printer's hard disk, the computer opens the Job Monitor window in Windows. ***(Only for Windows network-supported printers with built-in hard disks.)***
- **Schedule an automatic status checking every**: The computer updates the printer status regularly. Setting the value close to 1 second causes the computer to check the printer status more frequently, thereby allowing a faster response to any printer error.

7 Using Your Printer in Linux

You can use your machine in a Linux environment.

This chapter includes:

- **Getting Started**
- **Installing the Unified Linux Driver**
- **Using the Unified Driver Configurator**
- **Configuring Printer Properties**
- **Printing a Document**

Getting Started

The supplied CD-ROM provides you with Samsung's Unified Linux Driver package for using your machine with a Linux computer.

After the driver is installed on your Linux system, the driver package allows you to monitor a number of machine devices via fast ECP parallel ports and USB simultaneously.

The Unified Linux Driver package is supplied with a smart and flexible installation program. You don't need to search for additional components that might be necessary for the Unified Linux Driver software: all required packages will be carried onto your system and installed automatically; this is possible on a wide set of the most popular Linux clones.

Installing the Unified Linux Driver

Installing the Unified Linux Driver

1. Make sure that you connect your machine to your computer. Turn both the computer and the machine on.
2. When the Administrator Login window appears, type in *root* in the Login field and enter the system password.

NOTE: You must log in as a super user (root) to install the printer software. If you are not a super user, ask your system administrator.

3. Insert the printer software CD-ROM. The CD-ROM will automatically run.

   If the CD-ROM does not automatically run, click the icon at the bottom of the desktop. When the Terminal screen appears, type in:

   If the CD-ROM is secondary master and the location to mount is /mnt/cdrom,

   [root@localhost root]#mount -t iso9660 /dev/hdc /mnt/cdrom

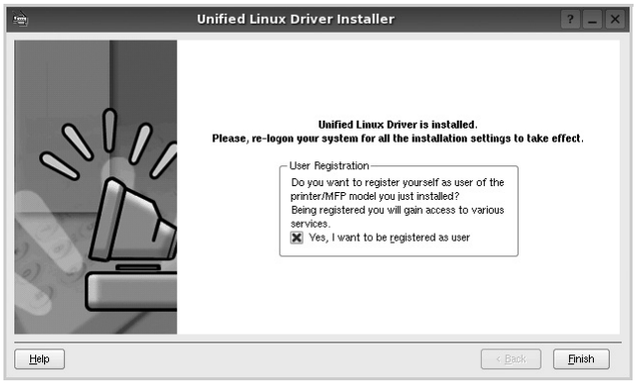
   [root@localhost root]#cd /mnt/cdrom/Linux

   [root@localhost root]#./install.sh

NOTE: The installation program runs automatically if you have an autorun software package installed and configured.

4. When the welcome screen appears, click **Next**.

5 When the installation is complete, click **Finish**.



The installation program has added the Unified Driver Configurator desktop icon and Samsung Unified Driver group to the system menu for your convenience. If you have any difficulties, consult the onscreen help that is available through your system menu or can otherwise be called from the driver package windows applications, such as **Unified Driver Configurator**.

Uninstalling the Unified Linux Driver

1 When the Administrator Login window appears, type in *root* in the Login field and enter the system password.

NOTE: You must log in as a super user (root) to install the printer software. If you are not a super user, ask your system administrator.

2 Insert the printer software CD-ROM. The CD-ROM will automatically run.

If the CD-ROM does not automatically run, click the icon at the bottom of the desktop. When the Terminal screen appears, type in:

If the CD-ROM is secondary master and the location to mount is /mnt/cdrom,

[root@localhost root]#mount -t iso9660 /dev/hdc /mnt/cdrom

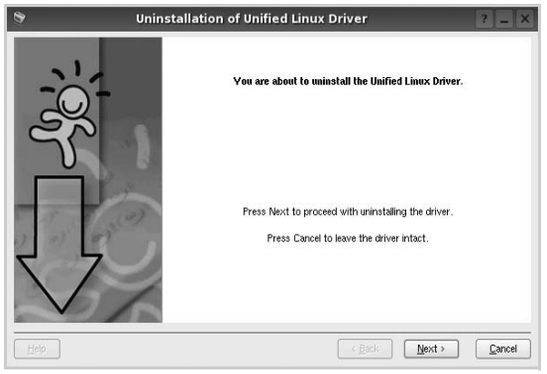
[root@localhost root]#cd /mnt/cdrom/Linux

[root@localhost root]#./uninstall.sh

NOTE: The installation program runs automatically if you have an autorun software package installed and configured.

3 Click **Uninstall**.

4 Click **Next**.



5 Click **Finish**.

Using the Unified Driver Configurator

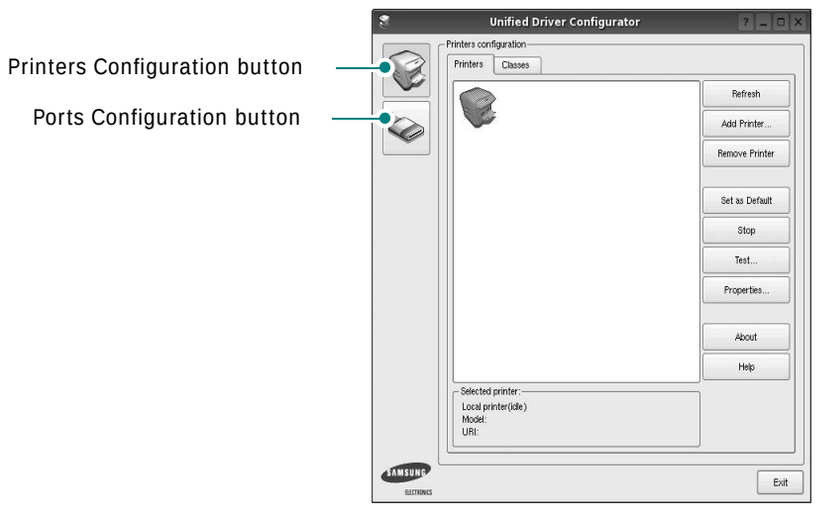
Unified Linux Driver Configurator is a tool primarily intended for configuring Printer.

After installing the Unified Linux driver, the Unified Linux Driver Configurator icon will automatically be created on your desktop.

Opening the Unified Driver Configurator

1. Double-click **Unified Driver Configurator** on the desktop.

   You can also click the Startup Menu icon and select **Samsung Unified Driver** and then **Unified Driver Configurator**.
2. Press each button on the Modules pane to switch to the corresponding configuration window.



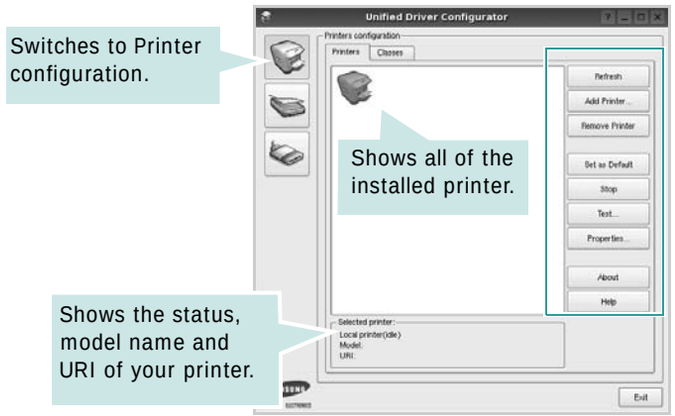
   You can use the onscreen help by clicking **Help**.
3. After changing the configurations, click **Exit** to close the Unified Driver Configurator.

Printers Configuration

Printers configuration has the two tabs: **Printers** and **Classes**.

Printers Tab

You can see the current system's printer configuration by clicking on the printer icon button on the left side of the Unified Driver Configurator window.

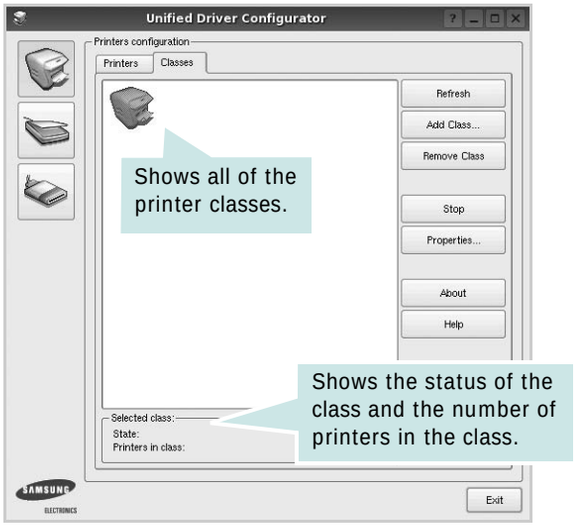


You can use the following printer control buttons:

- **Refresh**: renews the available printers list.
- **Add Printer**: allows you to add a new printer.
- **Remove Printer**: removes the selected printer.
- **Set as Default**: sets the current printer as a default printer.
- **Stop/Start**: stops/starts the printer.
- **Test**: allows you to print a test page to check if the machine is working properly.
- **Properties**: allows you to view and change the printer properties. For details, see page 30.

Classes Tab

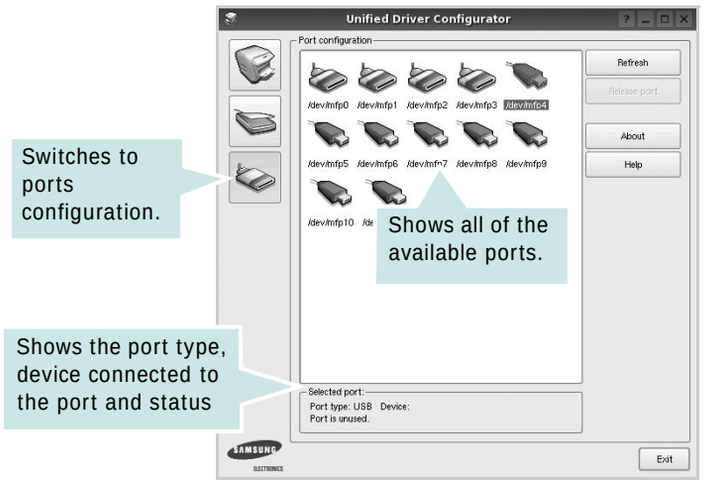
The Classes tab shows a list of available printer classes.



- **Refresh** : Renews the classes list.
- **Add Class... :** Allows you to add a new printer class.
- **Remove Class :** Removes the selected printer class.

Ports Configuration

In this window, you can view the list of available ports, check the status of each port and release a port that is stalled in busy state when its owner is terminated for any reason.



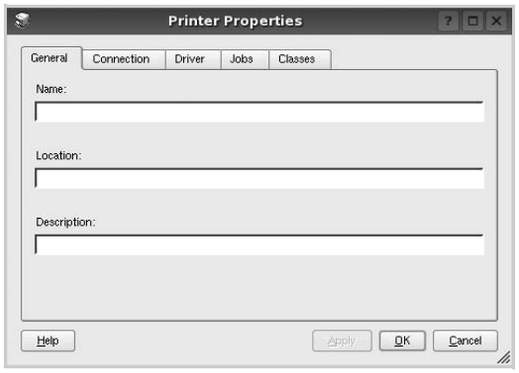
- **Refresh** : Renews the available ports list.
- **Release port :** Releases the selected port.

Configuring Printer Properties

Using the properties window provided by the Printers configuration, you can change the various properties for your machine as a printer.

1. Open the Unified Driver Configurator.

   If necessary, switch to Printers configuration.
2. Select your machine on the available printers list and click **Properties**.
3. The Printer Properties window opens.



The following five tabs display at the top of the window:

- **General**: allows you to change the printer location and name. The name entered in this tab displays on the printer list in Printers configuration.
- **Connection**: allows you to view or select another port. If you change the printer port from USB to parallel or vice versa while in use, you must re-configure the printer port in this tab.
- **Driver**: allows you to view or select another printer driver. By clicking **Options**, you can set the default device options.
- **Jobs**: shows the list of print jobs. Click **Cancel job** to cancel the selected job and select the **Show completed jobs** check box to see previous jobs on the job list.
- **Classes**: shows the class that your printer is in. Click **Add to Class** to add your printer to a specific class or click **Remove from Class** to remove the printer from the selected class.

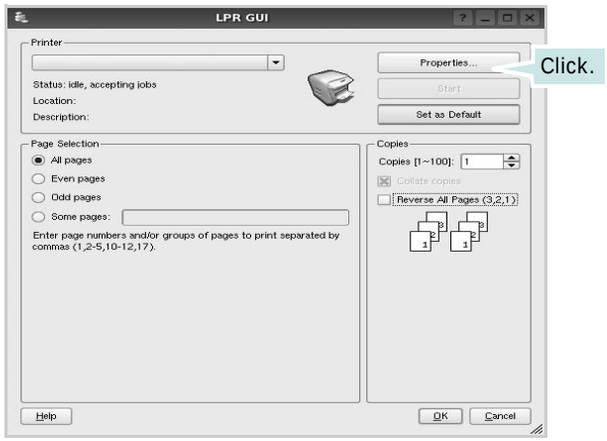
4. Click **OK** to apply the changes and close the Printer Properties Window.

Printing a Document

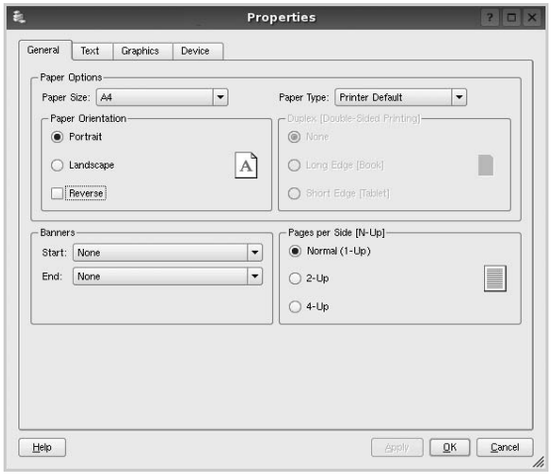
Printing from Applications

There are a lot of Linux applications that you are allowed to print from using Common UNIX Printing System (CUPS). You can print on your machine from any such application.

1. From the application you are using, select **Print** from the **File** menu.
2. Select **Print** directly using **lpr**.
3. In the LPR GUI window, select the model name of your machine from the Printer list and click **Properties**.



4. Change the printer and print job properties.



The following four tabs display at the top of the window.

- **General** - allows you to change the paper size, the paper type, and the orientation of the documents, enables the duplex feature, adds start and end banners, and changes the number of pages per sheet.
- **Text** - allows you to specify the page margins and set the text options, such as spacing or columns.
- **Graphics** - allows you to set image options that are used when printing images/files, such as color options, image size, or image position.
- **Device**: allows you to set the print resolution, paper source, and destination.

5. Click **Apply** to apply the changes and close the Properties window.
6. Click **OK** in the LPR GUI window to start printing.
7. The Printing window appears, allowing you to monitor the status of your print job.

   To abort the current job, click **Cancel**.

Printing Files

You can print many different types of files on the Samsung machine device using the standard CUPS way - directly from the command line interface. The CUPS lpr utility allows you do that. But the drivers package replaces the standard lpr tool by a much more user-friendly LPR GUI program.

To print any document file:

1. Type *lpr <file_name>* from the Linux shell command line and press **Enter**. The LPR GUI window appears.

   When you type only *lpr* and press **Enter**, the Select file(s) to print window appears first. Just select any files you want to print and click **Open**.
2. In the LPR GUI window, select your printer from the list, and change the printer and print job properties.

   For details about the properties window, see page 31.
3. Click **OK** to start printing.

8 Using Your Printer with a Macintosh

Your machine supports Macintosh systems with a built-in USB interface or a 10/100 Base-TX network interface card. When you print a file from a Macintosh computer, you can use the PostScript driver by installing the PPD file.

NOTE: ***Some printers do not support a network interface. Make sure that your printer supports a network interface by referring to Printer Specifications in your Printer User's Guide.***

This chapter includes:

- **Installing Software**
- **Setting Up the Printer**
- **Printing**

Installing Software

The Printer software CD that came with your machine provides you with the PPD file to use the PS driver, Apple LaserWriter driver, for printing on a Macintosh computer.

Printer driver

Installing the printer driver

1. Connect your machine to the computer using the USB cable or the Ethernet cable.
2. Turn on your computer and the machine.
3. Insert the PostScript driver CD-ROM which came with your machine into the CD-ROM drive.
4. Double-click the **Samsung_CLP** on your Macintosh desktop.
5. Double-click the **MAC_Installer** folder.
6. Double-click the **MAC_Printer** folder.
7. Double-click the **Samsung CLBP Installer OSX** icon.
8. Click **Continue**.
9. Click **Install**.
10. After the installation is finished, click **Quit**.

Uninstalling the printer driver

1. Insert the CD-ROM which came with your printer into the CD-ROM drive.
2. Double-click **CD-ROM icon** that appears on your Macintosh desktop.
3. Double-click the **Samsung_CLP** on your Macintosh desktop.
4. Double-click the **MAC_Installer** folder.
5. Double-click the **MAC_Printer** folder.
6. Double-click the **Samsung CLBP Installer OSX** icon.
7. Select **Uninstall** and then click **Uninstall**.
8. Click **Continue**.
9. When the uninstallation is done, click **Quit**.

Setting Up the Printer

Set up for your printer will be different depending on which cable you use to connect the printer to your computer—the network cable or the USB cable.

For a Network-connected

NOTE: ***Some printers do not support a network interface. Before connecting your printer, make sure that your printer supports a network interface by referring to Printer Specifications in your Printer User's Guide.***

Mac OS 10.3 or higher

1. Follow the instructions on "Installing Software" on page 32 to install the PPD file on your computer.
2. Open **Print Center** or **Printer Setup Utility** from the Utilities folder.
3. Click **Add** on the Printer List.
4. Select the **AppleTalk** tab.

   The name of your machine appears on the list. Select **SEC000xxxxxxxxx** from the printer box, where the **xxxxxxxxx** varies depending on your machine.
5. Click **Add**.
6. If Auto Select does not work properly, select **Samsung** in **Printer Model** and **your printer name** in **Model Name**.

   Your machine appears on the Printer List and is set as the default printer.

For a USB-connected

Mac OS 10.3 or higher

1. Follow the instructions on "Installing Software" on page 32 to install the PPD file on your computer.
2. Open **Print Center** or **Printer Setup Utility** from the Utilities folder.
3. Click **Add** on the Printer List.
4. Select the **USB** tab.
5. Select **your printer name** and click **Add**.
6. If Auto Select does not work properly, select **Samsung** in **Printer Model** and **your printer name** in **Model Name**.

   Your machine appears on the Printer List and is set as the default printer.

Printing

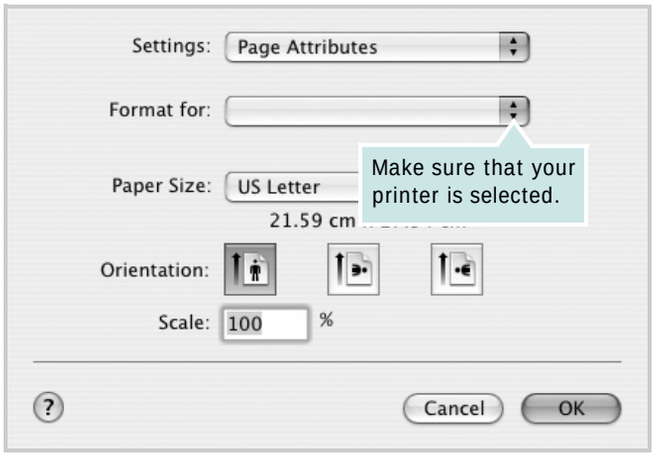
NOTES:

- The Macintosh printer's properties window that appears in this User's Guide may differ depending on the printer in use. However the composition of the printer properties window is similar.
- ***You can check your printer name in the supplied CD-ROM.***

Printing a Document

When you print with a Macintosh, you need to check the printer software setting in each application you use. Follow these steps to print from a Macintosh.

1. Open a Macintosh application and select the file you want to print.
2. Open the **File** menu and click **Page Setup** (**Document Setup** in some applications).
3. Choose your paper size, orientation, scaling, and other options and click **OK**.



4. Open the **File** menu and click **Print**.
5. Choose the number of copies you want and indicate which pages you want to print.
6. Click **Print** when you finish setting the options.

Changing Printer Settings

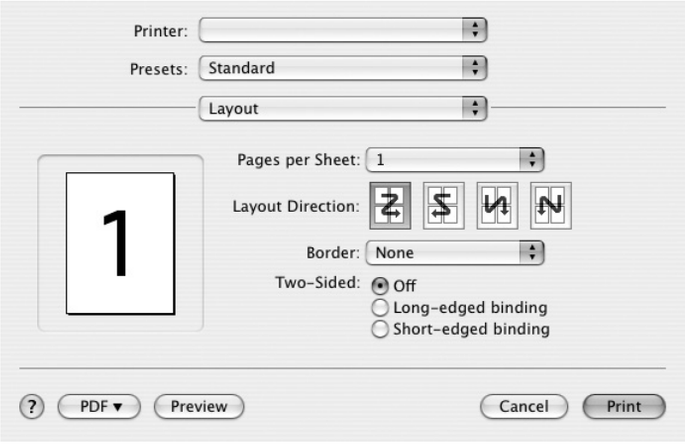
You can use advanced printing features when using your printer.

From your Macintosh application, select **Print** from the **File** menu. The printer name which appears in the printer properties window may differ depending on the printer in use. Except for the name, the composition of the printer properties window is similar.

NOTES: The setting options may differ depending on printers and Macintosh OS version.

Layout

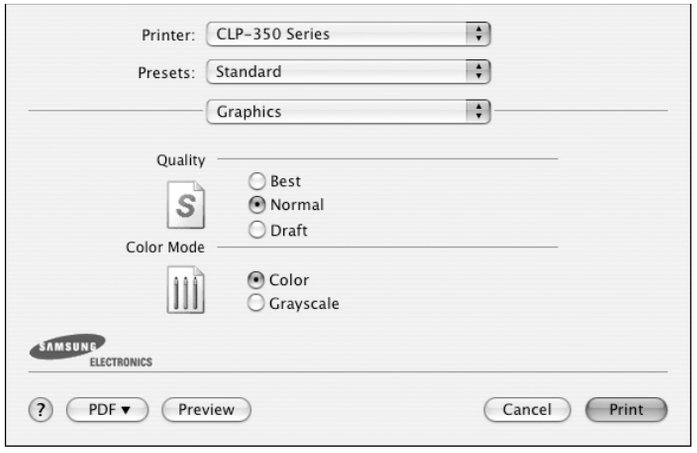
The **Layout** tab provides options to adjust how the document appears on the printed page. You can print multiple pages on one sheet of paper. Select **Layout** from the **Presets** drop-down list to access the following features.



- **Pages per Sheet**: This feature determines how many pages printed on one page. For details, see "Printing Multiple Pages on One Sheet of Paper" on the next column.
- **Layout Direction**: You can select the printing direction on a page as like the examples on UI.

Graphics

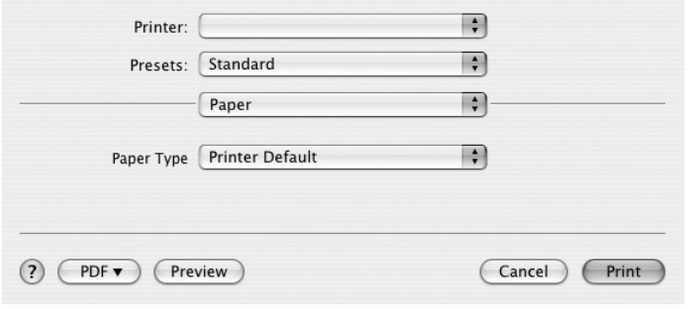
The **Graphics** tab provides options for selecting **Resolution(Quality)** and **Color Mode**. Select **Graphics** form the **Presets**' drop-down list to access the graphic features.



- **Resolution(Quality)**: You can select the printing resolution. The higher the setting, the sharper the clarity of printed characters and graphics. The higher setting also may increase the time it takes to print a document.
- **Color Mode**: You can set the color options. Setting to **Color** typically produces the best possible print quality for color documents. If you want to print a color document in grayscale, select **Grayscale**.

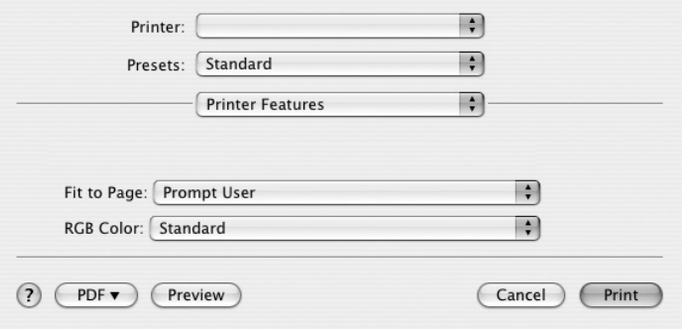
Paper

Set **Paper Type** to correspond to the paper loaded in the tray from which you want to print. This will let you get the best quality printout. If you load a different type of print material, select the corresponding paper type.



Printer Features

This tab provides options for selecting the paper type and adjusting print quality. Select **Printer Features** from the **Presets**' drop-down list to access the following features:

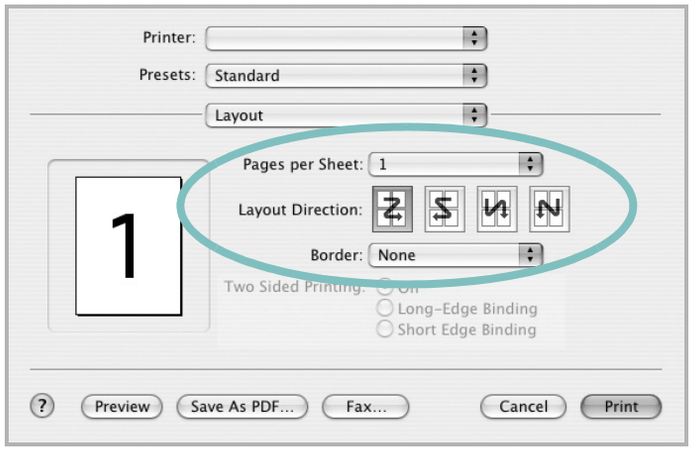


- **Fit to Page**: This setting allows you to scale your print job to any selected paper size regardless of the digital document size. This can be useful when you want to check fine details on a small document.
- **RGB Color**: This setting determines how colors are rendered. **Standard** is the most widely used setting which the color tone of this mode is the closest to that of standard monitor (sRGB Monitor). **Vivid** mode is appropriate for printing presentation data and charts. The color tone of Vivid mode produces more **Vivid** color images than that of Standard mode. **Device** mode is best used for printing fine lines, small characters and color drawings. The color tone of **Device** mode may be different from that of monitor, the pure toner colors are used for printing Cyan, Magenta and Yellow colors.

Printing Multiple Pages on One Sheet of Paper

You can print more than one page on a single sheet of paper. This feature provides a cost-effective way to print draft pages.

1. From your Macintosh application, select **Print** from the **File** menu.
2. Select **Layout**.



3. Select the number of pages you want to print on one sheet of paper on the **Pages per Sheet** drop-down list.
4. Select the page order from the **Layout Direction** option.

   To print a border around each page on the sheet, select the option you want from the **Border** drop-down list.
5. Click **Print**, and the printer prints the selected number of pages on one side of each page.

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